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Formerly Trained Nurse & Hospital Review, first published in 188

Nursing World

An independent Journal published for all who are engaged in the practice of nursing

Vol. 131 **FEBRUARY, 1957** **No.**

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NURSING WORLD is published monthly by NURSING WORLD Publications, Inc. Publication Office, 3110 Elm Ave., Baltimore 11, Md. Editorial Offices, 41 East 42nd St., New York 17, N. Y. Telephone: OXford 7-3785. Business and Circulation Office, 724 Ninth St., N. W. Washington 1, D. C. Telephone: MEtropolitan 8-5243. Entered as second class matter at the Post Office, Baltimore, Md. under the act of March 3, 1879. Subscription price: 35 cents per copy, $3.50 per year in the United States and Canada; $6.00 for two years; $9.00 for three years; Pan American Countries, $1.00 per year additional. Subscription rates for all other countries, $1.50 per year additional.

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POSTMASTER: SEND FORM 3579 TO NURSING WORLD, 724 Ninth St., N. W., Washington 1, D. C.

IN THIS ISSUE

COVER: An RN and a student PN collaborate in determining the apical pulse beat of their cardiac patient. (Photo by Ardmore, Miami.)

Faculties of schools of nursing frequently ask, "Are our students getting the preparation they need to be the nurses of the future? Are we using the best available methods of instruction? Is our curriculum what it should be?" Duke University's School of Nursing, particularly interested in finding answers to curriculum problems, held a 5-day workshop on the subject. Participants were mostly nursing educators from North Carolina; specialists in certain areas contributed to the discussions, and among those who spoke about what they felt a good nurse should be were a recent alumna of Duke and a former hospital patient. Mrs. Verna K. Sticht, Instructor in Fundamentals of Nursing at Duke, summarizes the discussions, page 7. Mrs. Sticht graduated from Park Avenue Hospital School of Nursing, Rochester, attended the Univ. of Rochester and earned the B.S. degree at Teachers College, Columbia Univ. She has taught in the schools of nursing of the following hospitals: St. John's, Norwegian and Prospect Heights, Brooklyn, and General Hospital, Rochester.

Katherine I. Frey

Katherine I. (Mrs. John C.) Frey, R.N., is Administrator of the Wieting-Johnson Memorial Hospital, operated by the Rheumatic Fever Foundation in Syracuse, N. Y. The hospital, fully accredited, serves children of New York State who suffer from rheumatic fever and its allied diseases. An extensive program for improvement in hospital-patient relations is carried on by the hospital, and some idea of the progress they've made can be gained from Mrs. Frey's article on page 10 in which she emphasizes the relationship between the hospital and the *cardiac* patient. Mrs. Frey was on private duty and in supervisory positions (with a 16-year interval as wife and mother), then came to her present assignment 6 years ago.

Thelma Gardner

Thelma Gardner is a student nurse in the class of 1957 at the Bronson Methodist Hospital School of Nursing in Kalamazoo, Michigan. Her paper on "Coronary Occlusion With Myodarcial Infarction" was sent to *Nursing World* by Virginia McPhail, R.N., Medical Instructor. Miss Gardner's article, like most of those we receive from students, results from study of the treatment and progress made by a patient in whose case she became interested.

Attitudes of industrial nurses toward their work, and of business management toward them, have changed considerably since a business man in Vermont employed a nurse to visit injured employees at their homes fifty years ago. Louise Candland, R.N., analyzes the present state of industrial nursing and shows how the nurse's contribution toward the prevention of illness and injury has increased with her desire to render more than emergency care.

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Nursing World Reports

Public Health Service Traineeships: Chestnut Lodge has been awarded two Public Health Service traineeships of $3400 each for a one year's post-masters clinical learning experience in psychiatric nursing. The program is aimed primarily to help the psychiatric nurse gain a special awareness of therapeutic nursing relationships and through the process of supervised experience, planned conferences and seminar work, gain ability to function more skillfully and with assurance in these relationships. Further information may be obtained from Frank J. Shea, Director of Nursing, Chestnut Lodge, Rockville, Maryland.

Workshops: Three workshops for graduate nurses, offering one credit each, are scheduled to be held during the 1957 Summer Session by the Division of Nursing Education, at Indiana University. Nurses having limited available time during the summer are especially invited to participate in these workshops, whether or not they are working toward a degree. Sessions for each workshop are scheduled from 9:00 A.M. until 12:00 noon and from 1:30 P.M. to 4:00 P.M. The workshops will be conducted as follows: A Workshop in Nursing Service (Ed. N496) for head nurses, supervisors, and administrators of nursing service in hospitals will be held June 17-June 22, 1957. The Workshop will be conducted by Miss Helen J. Weber, Assistant Professor of Nursing Education, and the faculty of Indiana University. The theme of this Workshop will be "Meeting Patient Needs Through Staff Education." Consideration will be given to the over-all implications of hospital staff in-service programs for improving nursing care to patients, with special emphasis on the development of communications and relationships.

The second Workshop will be in Psychiatric Nursing (Ed. N496) and will be held on June 24-June 29, 1957. It is being given for staff and head nurses, and others with a limited background in psychiatric nursing. The Workshop will be conducted by Mr. Lee D. Fuller, Assistant Professor of Nursing Education, and the faculty of Indiana University. The theme of this Workshop is: "Implications of Nurse-Patient Interactions." It is designed for the purpose of providing participants an opportunity to explore in depth some of the principles of psychiatric nursing as they affect the total nursing situation. The frame of reference will include application to patients served by general hospitals and public health agencies, as well as psychiatric hospitals.

The third Workshop will be on Nursing Curriculum (Ed. N496) and will have as its theme "Providing for Integration Through Curriculum Planning." It will be held July 1-July 7, 1957. Consideration will be given to the over-all concepts of integration in basic schools of nursing curricula with special emphasis on how to incorporate these concepts in the various courses. Fees for the workshops are $8.00 per credit hour. Registration and payment of fees is to be taken care of on the first day scheduled for the workshop. For further information write to: Director, Division of Nursing Education, Indiana University, Bloomington, Indiana.

New Programs and Courses: A two-week full-time course in the "Principles and Practices of Geriatric Rehabilitation for Home, Hospital and Nursing Home" will be given in the Spring of 1957 for registered nurses, physical therapists and occupational therapists. The course is to be given at the New York Medical College, Flower and Fifth Avenue Hospitals. The course will provide a comprehensive and practical review of the concepts and techniques in the rehabilitation of elderly, chronically-ill patients. The fee for the course is $100 for the two weeks. A small number of traineeships will be available. If you are interested in participating in the course or in sending a member of your staff you may apply to: Dr. Ira Belmont, Executive Assistant of the Department of Physical Medicine and Rehabilitation, Bird S. Coler Hospital, Welfare Island, New York.

A course in Industrial Health for registered nurses only is offered by the Institute of Industrial Health of the University of Cincinnati during the week of March 25-29, 1957. The faculty will include the staff of the Institute and selected guest instructors. The course is designed to develop the administrative abilities of the industrial nurse by analyzing her in-plant and community relationships and describing those of her functions which have much in common with teachers and social workers. A certificate of attendance will be awarded at the completion of the course. Registration fee is $25.00. For bulletins, hotel reservations, or other additional information write to: Secretary of the Institute of Industrial Health at Kettering Laboratory, Eden and Bethesda Avenues, Cincinnati 19, Ohio.

The University of Miami will offer this fall a program in psychiatric nursing. It is the third university in the South to offer a program in this branch of nursing. Consultant for the psychiatric nursing program will be Dr. Hildegard Peplau, chairman of the psychiatric nursing department at Rutgers University.

The American Orthopsychiatric Association will hold its 34th Annual Meeting at the Hotel Sherman in Chicago March 7-9, 1957.

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Panelists at the opening session of a 5-day curriculum workshop at Duke Univ. School of Nursing were (left to right): Margaret Ann Jackson, recent alumna; F. Ross Porter, Superintendent of Duke Hospital; Dr. Ewald W. Busse, Duke psychiatrist; Mrs. Verna Sticht; Lelia Clark, Director of Nursing Service, Duke Hospital; Katherine Ormston, a former patient.

Duke University's School of Nursing held a "Workshop on Curriculum" to wrestle with the problems inherent in the question:

How Shall We Prepare the Professional Nurse?

by Verna K. Sticht, R.N.
Instructor, Fundamentals in Nursing,
Duke University School of Nursing, Durham, N. C.

PROBABLY at no time in the past have the members of the nursing profession asked so urgently, as they do today, "What kind of care do the people of our country need? What kinds of personnel are needed to give this care and how should they be prepared? Are we really giving our students what it takes to function as professional nurses? And how should they function as professional nurses?" Then, after we try to answer some of these questions, nursing educators are still troubled about the methods we use to accomplish what is agreed upon as the desired result.

The rising birthrate and the higher percentage of older people plus the greater demand for health services have resulted in an overwhelming demand for well-trained nurses. In addition, great strides in medical research and advances in surgery reach out and alter the very functions of nursing. New drugs, broader concepts of human behavior, the changing status of the professional nurse to one of administrator, all contribute to make graduate nurses aware of their inadequacies. Frequent refreshing and reevaluation must be exercised to keep the professional nurse abreast of the times.

Because, like all other educators, the nursing faculty at Duke University has become aware that the responsibility rests upon its shoulders to plan for the future of our students, we planned to participate in a "Workshop on Curriculum" in the hope that we might come closer to some solutions. Of course we realize that answers to all questions cannot be reached suddenly and easily; some problems in nursing education have to be resolved with time and patience.

The opening session of the workshop was highlighted with a panel of selected individuals who were believed to be especially qualified to give some unbiased opinions on the subject of "What I Expect of a Professional Nurse." These panel speakers were: A physician, a hospital administrator, a director of nursing service, a former patient and a recent graduate nurse, with a representative of nursing education as moderator. This panel proved to be an excellent starting point for a most invigorating discussion. Speeches and discussion were tape-recorded for future reference. In addition to the usual requirements expected of a graduate nurse, i.e., knowledge of principles and the art and science of nursing practice, the panel participants agreed that prime requisites of a good professional nurse also include the ability to understand people, the willingness and preparation to assume responsibility, and the alertness to observe and to report accurately

(Continued on next page)

about the patient's condition.

Dr. Ewald Busse, Chairman of the Department of Psychiatry at Duke Hospital, as the physician on the panel, told the workshop participants that "like many other professions, nursing is currently in a state of transition and is reaching for prestige." He stressed the need for greater emphasis on recognized problem areas in these four particularly: cardio-vascular diseases, mental health, cancer and geriatrics. To fulfill her role, the nurse needs increased knowledge of the normal growth processes, of the interaction of socio-economic backgrounds from patient to patient, and the interaction between patient and nurse. "What it means to a patient to enter a hospital must be at the finger tips of the nurse; how they respond to being put on a therapeutic regime which is pretty rigid; how they respond to being told they have cancer or a heart condition, or how the patient sometimes regards his physician as a threat and the nurse as a protector." Continuing with the need for a nurse to know her own role, he said: "It is not simply a good enough thing to say, 'I've always been interested in nursing'; they should know much better than that what they are doing in the nursing field—this will make a very important difference as to how they will deal with their patients." Dr. Busse also had a special word for the educators of nurses, urging that we should think in terms of how best to teach nurses to make them aware of their role in society. "In society a nurse is a very respected person. She is often asked for information and asked for guidance. I think that effort should be made to equip the nurse so that when she is out in society, outside of the clinic, outside of the hospital, she knows how to deal with all these questions that come to her." Finally he recommended that the workshop participants keep in mind that one of the "best ways to teach leadership and nursing qualities is by example and in a lot of single individual instruction and in small group instruction."

The Director of the Duke Hospital Nursing Service, Miss Lelia Clark, thinks that "liking and understanding people is one of the most essential qualities in a good nurse." She listed the qualifications of a competent graduate nurse as "intelligence, a high level of maturity, managerial ability and the ability to assume responsibility."

The hospital administrator, Mr. Ross Porter, also of Duke Hospital, told the workshop participants that one prime necessity is "a sense of loyalty and professional pride which will not permit nurses either to 'vegetate' or to move aimlessly from one hospital to another."

The former patient, Miss Katherine Ormston, said "the patient wants to be physically comfortable, but even more important, he wants a friendly response from the nurses who are taking care of him."

The recent graduate nurse, in defining her views of what to expect of the professional nurse felt that nurses need to develop better interpersonal relations with their patients and other personnel. She urged that the curriculum include more student-patient contact in order to provide for a better understanding of the patients' needs.

Following the panel, Dr. Jonathan C. McLendon, assoc. professor of Education at Duke University, discussed the subject, "Philosophy and Objectives in Education." This was followed by a presentation of "Philosophy and Objectives in Nursing Education" given by Miss Florence Elliott, Consultant of the National League for Nursing.

Concluding the first day's session, the participants were divided into three small groups and met briefly with their assigned leaders. The next two days were spent in group discussions. With the thoughts expressed by the panelists and guest speakers to stimulate our thinking, we began in earnest to discuss the problems of nursing curriculum. Each group was given a series of questions with references from: Sand, Ole, *Curriculum Study in Basic Nursing Education*, G. P. Putnam's, New York, 1955 for study and to be used for guides to discussion.

Dr. Allen S. Hurlburt, professor of Education at Duke University, on the third day of the workshop, presented pertinent facts on evaluation as it related to the curriculum. Miss Elliott made application of his presentation to nursing curricula.

The major portion of the workshop was spent in group deliberations, identifying common problematic areas and suggestive approaches to the problems of curriculum.

Leaders and recorders also met daily with Miss Elliott to review the discussions of the day and to plan for the group meetings for the next day. A summarization of group functioning, compiled at the close of the workshop period, was presented to the group by Miss Elliott and distributed to the participating members.

In the three groups, various topics were discussed and many problems relating to curriculum were posed. It was noted that there were common problems which require considerable exploration by individual schools as well as the profession in order that we may arrive at a solution to the question: "How shall we prepare the Professional Nurse?"

Conclusions reached are as follows:

I. Philosophy and Objectives in the Nursing Curriculum

Philosophy:

There was unity of opinion that these subjects are most important to have de-

In group discussions are North Carolina nursing educators. They are (clockwise at table): Mrs. Pauline Gaskill, leader, Duke; Ida Collie, Rex Hosp., Raleigh; Edith Lyday, Grace Hosp., Morgantown; Nancy McKelvey, recorder, Duke. Others (left to right) are: Ollie Davenport, Duke; Lillian Butner, N. C. Baptist Hosp., Winston-Salem; Lucy Koesy and Martha Lee Covington, Duke; Priscilla Ballance, Wilson Hosp.; Catherine Wilson, Grace Hosp., Morgantown.

fined and clearly stated in the curriculum, but not necessarily completely attainable. Terminology and structure may not be important in a statement of philosophy and objective, as long as the statement gives evidence of a clear overall purpose of the school. It was also felt that individual faculty members might have different personal philosophies, yet conceivably work together for the common good of the curriculum. Because the groups felt that a good philosophy is part and whole of the individual school and its specific purpose for existence, the writing of philosophy per se was not attempted.

Objectives:

What should be included in a statement of objectives? How specific should they be? "In nursing," one group decided, "objectives are more likely to be attainable than in general education as nursing education tries to provide the student with a broad basis on which to build."

In discussing "beliefs" as expressions of both philosophy and objectives, the group appeared to be in accordance with the following terminology; among these were: "democratic action," "maturing judgment," "competence in skills," "compassionate service," "recognition of the dignity and worth of the individual," and "acceptance of personal responsibility for professional growth in a dynamic society."

II. Leadership

The subject of leadership seemed to evolve and persist in the discussions of objectives and appeared to be a popular topic in all groups. "Must all nurses be leaders, and is it possible?" "Are professional nurses to be leaders in all areas—all the time?" "How shall we help our students to be leaders?" Some of the concluding thoughts upon this subject of leadership were:

1. The faculty might refrain from over-protecting the student so as not to destroy the student's confidence in her own skills and judgment.
2. As a student reaches each successive level of performance, she should be promptly progressed to the next level.
3. A leader must be able to help others gain confidence, therefore she needs personal security, the ability to self-evaluate and the ability to take this initiative.
4. She must possess basic knowledge and understanding and she must be able to establish and maintain good interpersonal relationships.
5. At times, all professional nurses will have to assume the role of leader to a greater or lesser degree.
6. Perhaps students having individual leadership potential should be made aware of this talent, be told their test scores, I.Q., etc., so that they may be aware that they have an obligation to use their special talents to the fullest. This would necessarily have to be done with great care and by someone who is well enough acquainted with the student to know how she will respond.

Workshop leaders (L to R): Mrs. Eva Warren, Ed. Dir., Watts Hosp. Sch. of Nursing, Durham; Florence Elliott, Asst. Dir., Div. of Nursing Ed., NLN; Dean Ann M. Jacobansky, Duke University School of Nursing, Durham, N. C.

III. Clinical Experience

"Is it necessary for students to have a wide variety of learning experiences, or should they have more intensive experience in a limited area with a few patients?" "Should experiences in patient care be planned on the basis of age group, economic situation, differences in social and cultural backgrounds, instead of according to disease categories, or for nursing procedure experience?" The only conclusion to these questions was that they pose interesting avenues for further exploration and study.

"With the present trends in curriculum toward integration, is it necessary to continue to include blocks of experience in diet therapy, in formula laboratory, or in operating room as such?" It was concluded that experiences in nursing can be made most meaningful by actual total patient care rather than by isolated areas of practice. Furthermore, it can be accomplished with patients of any service as each patient presents a complete learning experience. The nurse might follow one patient through his entire hospital experience from admission to discharge; then she may gain a realistic concept of the patient's total reaction to his illness and of his need for support along with understanding of the entire plan of treatment and care.

IV. Course Sequence

"Can courses be simplified or combined in order to facilitate student learning without overloading the course content and without interfering with subject retention?" One group concluded that it was generally felt that while the faculties of schools of nursing are making strong efforts to utilize the finest and newest methods of instruction, they are tied to older traditions of course sequence and content with the result that they are adding to, rather than reducing, the amount of subject matter to be taught.

It was recommended, also, by one group, that some of the content of the course in psychiatric nursing should be taught earlier in the total curriculum. The concepts of interpersonal relationships and psychosomatic medicine should not be left until the late Junior or Senior year to receive formal theoretical recognition. The prevalence in the general hospital beds of many psychosomatic and psychiatric patients almost requires us to give this serious consideration.

V. Self-Evaluation

"The use of self-evaluation was encouraged for faculty and students alike. Unfortunately the unfavorable attitudes of faculty members, stemming from their student days, toward self-evaluation is frequently and unconsciously passed on to students." It was suggested that the instructor or supervisor and the student independently make out progress reports and each bring her report to conference, as a means of encouraging active participation by the student in the evaluation.

In concluding the workshop deliberations, Miss Elliott stated the following as four major challenges that currently face nursing educators:

1. How to prepare a skilled bedside nurse in view of the many demands in the hospital environment which take her away from the patient.
2. How to prepare a nurse who possesses a real understanding of people in addition to scientific knowledge and technical skills, and who can effectively utilize this understanding in caring for patients.
3. How to prepare a nurse who can take her place as a leader of the nursing team and who can work effectively with members of other health disciplines.
4. How to develop a program which meets the needs of students as individuals.

The workshop was unanimously voted a success. The desire to improve the curriculum of their individual schools seemed to be uppermost in the attitudes of the participants. As for our own faculty, we have plans to continue study of our curriculum from the conclusions reached in the workshop. We are planning to take one particular problem, explore and discuss it thoroughly; we aim to strive toward a workable solution. In our progress to find a better way of preparing the professional nurse, we realize the import of our decisions, for what we do now will reach far into the future. Let us hope that what we do today, will be right for tomorrow.

Hospitalized cardiac patients benefit mentally as well as physically from admission procedures that take into account their natural apprehension about entering a hospital.

The Nursing Service and Cardiac Admissions

by Katherine I. Frey, R.N.
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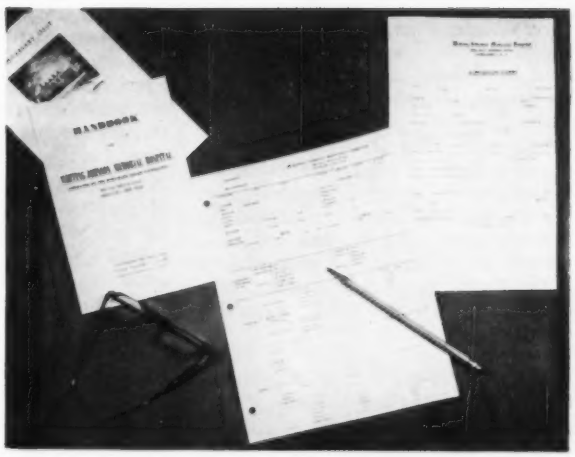
THE PROGRAM for the accreditation of hospitals is without a doubt the greatest innovation of the ages toward improvement of hospital-patient relations. Of necessity there must continue to be some variations in operation, but by and large the eventual programs will be fundamentally the same and of a high standard. In this accomplishment hospitals can prove themselves to the public and gain its confidence.

With this improved relationship we can anticipate an understanding of one another's basic problems. The formation of joint committees which draw together the professional and lay members of the community has helped to chip the ice, if not completely break it. If we employ convincing demonstrations of truth, we may yet succeed in lessening the solicitude that is especially native to the cardiac patient, our immediate interest.

The physician may spend countless hours giving his patient an intelligent description of his condition. He must explain the immediate necessary course and his future program in detail, for the airways, press and periodicals have already kept the public dramatically informed in the latest know-how of its own and all other diseases. The people have been casually impressed with this information, but the statistical knowledge of the high inci-

To demonstrate the reassuring friendliness that should be the patient's welcome, Elizabeth Powlesland, R.N., shows her approach to the new admission at Wieting-Johnson Memorial Hospital, Syracuse, N. Y. Photo by Ann G. Pass.



In addition to the intangibles that help the patient's morale, the admission process must include filling in several forms; a hospital handbook is useful, too.

dence of heart disease and its mortality rate have rightfully frightened the people and particularly the cardiac patient.

If the patient's illness is of the nature or severity to warrant hospitalization for further diagnostic procedures and treatment, his apprehension usually becomes magnified. There may be financial as well as personal anxieties relative to the proposed hospital experience and these will require time and consideration, if not assistance. At its very best, this can be a tremendous undertaking for the patient and his family.

The more recent trend toward the preadmission registration has removed much of the seeming abruptness for the patient and has also been helpful to the hospital. Upon the decision of a physician to hospitalize his patient, he can communicate the requirements to the admitting officer in the hospital. He will state the degree of illness, whether it is acute, moderate or mild, and the urgency for admission.

If there is sufficient time allowed, a brochure or handbook which tells about the hospital's services, routine and its practices, can be mailed to the patient with an information questionnaire. The questionnaire may be returned by mail or taken with the patient on admission. More satisfactory, however, is the direct telephone communication between the admission officer and the family or patient. The personal contact affords **an**

In the admission interview, the Admissions Nurse can rid the patient of some apprehensions about hospitalization.

exchange of information relative to the patient as a person, his financial responsibility, time and day of arrival and any questions he may have about the hospital program. This initial hospital-patient contact breaks the barrier for the patient and creates for him a tangible relationship. It also insures a smoother office procedure on the day of admission, saving time which is important to the patient and to the hospital.

In the instance of the cardiac patient, perhaps more than any one other medical admission, the initial information must be accurate in detail. The spelling of names, birthplace, citizenship and heritage, church affiliation and obligations, responsible relationships, telephone numbers and business associates, if any, must be accurately written down. Permission forms must be signed by properly designated persons and in a manner to withstand any legal contest. With these essential clerical details completed, the patient gains recognition once more as a person.

During the experience of pre-admission formalities and the initial introduction to a new existence, the patient's apprehension or fear may have subsided to some degree. If it has, the chances are that the admission officer can be given the credit and there is also a chance that the officer has a nursing background.

Although we still are deep in a period of nurse-shortage, there is not a hospital in operation that can afford not to assign nurses to Admissions. The proven qualities essential to this post are poise, intellect, a training adequate to the potential emergency, and a personality that is warm with compassion for her fellow man. Moreover, since the hospital surveys show that a higher percentage of admissions occurs during the 3-11 p.m. hours, it is only logical to retain a continuity in personnel and make Admissions a strong nursing service function, day and night.

The office used for Admissions must be comfortable, attractive, uncluttered and adequate in size. It must be arranged with thought of personal needs and comfort. A lavatory and toilet facilities must be near at hand for the use of the patient and his family. The patient is ill, but the family shares his emotional stress and they may have traveled some distance. For further convenience, there must be easy access to a wheelchair or stretcher and elevator service, for the perceptive admitting officer will discern the patient's needs.

The nurse in Admissions is professionally familiar with the physical plan of the hospital and its areas planned for care of the cardiac patient. If the referring physician has not already indicated specific instructions, her professional training and experience will guide the nurse in her decisions. Once this has been accomplished, the successful admitting officer does not release the new admission to the sole care of a strange attendant. She accompanies them to the room assigned to the patient, remaining with him through the patient's orientation, and is his liaison in this new experience. She is accepted as the initial factor in the admissions service by the staff as well as by the new patient.

Prior to his arrival in the department, the other members of the nurse admission service have been preparing for the actual or personal admission of the cardiac patient. The props are in place and the stage is cleared; the star has arrived. But as with the best of actors, a good director is necessary for a good performance and the admitting nurse finds it a moral obligation to guide the cardiac through his routine. She must assume the emotions of his character, live with him through his reactions. The nurse must think, perhaps speak for him, without letting him lose his identity as the lead.

Much needed energy is wasted on many occasions in untimely and non-essential routine questions and examinations. The cardiac area of a hospital must recognize any of these weaknesses in administration and set up a program that might be called "Save the Patient." The fewer unfamiliar faces and personalities presented to the new cardiac patient, the better. In this area, the team unit of nursing service again makes for the desired continuity in patient care and is an immeasurable relief to the patient.

Except for the emergency case, the approximate hour of patient arrival has been known ahead of time by the charge nurse in her department of admission service. She knows to which of her rooms he has been assigned and she is prepared to receive him; his arrival will not create a state of confusion. With anticipation and forethought, she has made tentative plans for the essential technical procedures of admission. She has arranged for them to be time-spaced with consideration for a cardiac patient, guarding against undue fatigue and increased discomfort without delaying necessary information for the physician.

The nurse in Admissions will have given previous consideration to the selection of the specific room area and the appointments that are so important to the cardiac patient. She makes sure that the room is not cloistered or too small and that it has a sunny exposure if possible. The bed will have a double gatch,

The Admissions Nurse considers ahead of time the selection of the patient's room and its various appointments.

in excellent working condition and will be so placed in the room that by lifting one eyelid, the patient may see any person who enters his room. The bed is also equipped with a blanket lift, which relieves all tension of bedding across the feet of the patient.

The type of lighting in the room must be not merely adequate, but satisfactory. There must also be a provision for night lighting. The electric call bell must be conveniently and securely fastened at fingertip. The window shutters must work with ease and precision and with no chance of a sudden crash or clatter. The colors and patterns used in the decor, together with any pictures, must have been selected with wisdom and good taste. The dresser drawers must glide and close without sticking or banging. A bedside cabinet must have its door open toward the patient, again with no sticking of door or drawer. The chairs, footstool and any other movable furniture must be equipped with rubber snubs for quiet. All doors that cut into the room must be padded against banging.

If there is a lavatory in the patient's room or an adjacent bath, there must be a safeguard against the sound of dripping or unnecessary running of water. If oxygen is not piped for therapy, the machine used must be electric and must function with a minimal purr—it must never be one that is cooled by the dropping of ice chunks into the cabinet. All of these have been appointments within the room that the nurse in Admissions has checked. Outside the room, she must be increasingly sound conscious—of sounds both vocal and mechanical.

One sign that may be placed outside the cardiac's room should read "No guests, no whispers, no ghosts." Guest flow can be regulated to a control by the physician. Whispers, historically speaking, accomplish little more than alarm within the patient, but like the telephone and the P. A. system, they are a definite part of hospital communications. Ghosts can and must be done away with, however. The nurse who admits a cardiac patient, particularly, is dedicated to the prevention of that needless parade of people who are obsessed with tiptoeing in and out of the patient's room.

Smoking, for the cardiac, is a highly controversial subject and one that must be decided between the physician and his immediate patient. Until she has been made fully cognizant of the ultimate decision, the admissions nurse should presume that there will be restrictions. And since the nurse is the hostess in her department, she is privileged to omit the placement of ashtrays or any other suggestion for smoking within the convenience of her patient.

A very important factor in the admission of the cardiac patient and one which must never be taken lightly by the nurse in her routine of admission is to recognize the dietary habits of the new patient. She must note his nationality, sex, age and socio-economic level, for each of these is important in his diagnosis and his treatment. From the nurse in Admissions, the dietary department will receive adequate and accurate information for correlation with the dietary program as prescribed by the physician. Imagination in the selection of foods and their preparation and presentation in service can help to overcome the restrictions in food and the special diet that may prove to be stringent for the patient. It is known that the dietary service in a hospital can make or break the best patient. The admissions nurse will also be familiar with the capacity of the new patient and will prearrange for any assistance necessary to the patient at tray time. If a cardiac patient must be limited in activity, then it is the duty of the nursing service to provide him with aid at meal or nourishment time, lessening the burden of essential food intake. It is psychologically more important to the patient to reserve his energy for some more pleasurable task, one that demands less movement of the arms.

As the physician attempted earlier to explain away an apprehension toward hospitalization, the nurse in Admissions must continue to reassure convincingly once the patient has arrived at the hospital. There is a definite transition from the ill person at home into the hospital patient, but one which can be accomplished without the awareness of the individual. In this accomplishment, however, the fear that is natural will be and must be replaced, not repelled.

During the admission interview, the new patient may have casually noted his newspaper preference and his church affiliation. Later, when his favored paper arrives in his room and his own clergyman stops in to visit, together with innumerable other small niceties, the patient feels a part of the whole. Whether or not he remembers the nurse in Admissions, it was she who created for him his sense of belonging and his kindly feeling toward the hospital and the personnel whom he thinks of as kind people.

Good public relations for the hospital can begin when the nurse in Admissions first answers the call from the referring physician. The interim experiences must be pleasant and efficient. The hospital has admitted a new cardiac patient. It may be you—or I.

A student's observation of an elderly patient in her hospital resulted in this summing up of what she learned about

coronary occlusion with myocardial infarction

by Thelma Gardner

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CORONARY occlusion is the closure, by thrombosis or marked coronary sclerosis, of one of the coronary arteries, with resulting infarction of the heart muscle supplied by that vessel. Myocardial infarction is the death of the heart muscle due to the blocking off of the blood supply to a part of the heart.

Although one cannot lay his finger on any one definite cause of coronary artery disease, there are several significant and predisposing factors. Most important is the familial tendency and the fact that males are apparently more susceptible than females. Age also plays an important part in coronary occlusion; the average age for the onset of the disease is fifty-six for males and about fifty-eight for females. Hypertension is another predisposing factor. A possible predisposing factor of myocardial infarction is aortic insufficiency; this condition is frequently accompanied by a low diastolic pressure which results in a diminished nutrition of the heart muscle.

Other conditions often associated with coronary occlusion are gout, Buerger's disease, polycythemia, and hyperthyroidism. Diabetes mellitus is another important disease related to coronary artery disease; a large number of diabetics, especially the elderly ones with mild cases, eventually develop coronary artery disease. A cardiac patient whose treatment I followed with considerable interest (whom I shall call "MI") has had diabetes mellitus for a number of years. She takes 15 units of Neutral Protamine Hagedorn insulin daily, and follows a diabetic diet consisting of 150 grams of carbohydrate, 80 grams of protein and 70 grams of fat.

MI is a 73-year-old white female who has been a widow for 32 years. She married first at the age of 19, separating at the age of 21, and had one child by this marriage. Her second marriage took place when she was 23. There were three pregnancies with this marriage, one of them a miscarriage. MI is a member of the Methodist church and appears to be quite an intelligent person; she is able to carry on a very interesting and intelligent conversation and enjoys reading. MI likes to spend a lot of time out-of-doors and is very active for a person of her age; she enjoys traveling and is especially interested in fishing. She has belonged to the Rebecah Lodge for a number of years and was a very active member until the onset of her illness. MI seems to be emotionally stable, able to accept things and situations as they are, and quick to adjust to new situations. She is proud of the fact that she is as active as she is at her age but also realizes that it will be necessary for her to "slow down" because of her illness.

MI's mother died in her seventies of Bright's disease, and her father died at the age of 72 of cerebrovascular accident. She has two half-brothers and had four half-sisters.

MI has two daughters and a son, all married and living in this city. One daughter is a registered nurse. MI lives with her other daughter in a nice section of the city. Her family reacted very well to her illness and during the acute stage one of her daughters stayed with her all the time.

MI's family tried to make it as easy as possible for her during her stay in the hospital. She didn't seem to worry much about home problems, and she had insurance to take care of her hospital bill. She accepted her illness quite well from the start and adjusted very well to the hospital environment. She enjoyed having visitors and was a very pleasant person to care for.

MI was discharged from the hospital on February 7, 1955, following an acute posterior myocardial infarction. She convalesced well at home and was progressing quite satisfactorily until June 1955. At this time she noted occasional anginal pains occurring in the anterior axillary region and radiating medially beneath the left breast. MI continued to have such attacks, with pain tending to involve the anterior chest, both shoulders, and radiating down the left arm; she also suffered from moderate nausea. On September 10, 1955, she was admitted to the hospital for treatment.

The effects of coronary artery disease on the heart are variable. There may be only a local and temporary deficiency of blood without structural change; there may be slight fatty degeneration, generalized or local, with a late sequela of fibrotic change. There may be extensive changes due to single or multiple infarctions which are so gradual in development that the heart remains competent with a lowered reserve. There may also be a suddenly developed myocardial infarction, small or large, involving one part or another of the left

ventricle, rarely the right ventricle or both ventricles. This is usually due to occlusion by thrombosis or embolism of one of the main coronary arteries.

The descending branch of the left coronary artery near its mouth is the place most commonly affected both by extensive sclerotic change and by thrombosis. When there is a sudden occlusion at this spot an infarction usually appears in the anterior wall of the left ventricle near the apex and often involves the anterior and lower part of the interventricular septum. This is the most frequent site of infarction, and the descending branch of the left coronary artery has as a result of its fatal role been called the "artery of sudden death."[1]

THE TWO most common symptoms of coronary heart disease are pain and dyspnea. In the case of coronary thrombosis there most likely will be a severe, exhausting, crushing, substernal pain, radiating to either arm or both arms, neck, head, or back. It is not always relieved by rest, nitrites or by morphine. It lasts over fifteen minutes, and usually several hours, gradually lessening in intensity. Dyspnea may vary from a slight breathlessness on exertion to an actual struggling respiration. It may develop from pain, from fear, or from the lack of oxygen due to impaired circulation of the coronary arteries. Palpitation is another common symptom. With myocardial infarction, fever, leukocytosis, and an increase in the rate of erythrocyte sedimentation occur within twelve to twenty-four hours. These are due to death of tissue. Other symptoms may include faintness, syncope, nausea, vomiting, convulsions, mental disturbances of a varying degree, and coma. The blood pressure may vary from a sub-normal reading to one that is elevated.

One of the diagnostic signs of myocardial infarction is that of a friction rub of the pericardium if the infarction is fairly large. It usually appears on the second or third day of the illness and may disappear in a day or two.

The symptoms described by MI were more or less typical. On the evening she was admitted to the hospital, she complained of chest pain that had become increasingly severe. It was described on her chart as a "sustained chest pain that radiates to both shoulders and down the arms." Her blood pressure was 190 systolic and 80 diastolic, and her temperature was normal. She was very apprehensive and seemed afraid to breathe. She stated that she had been nauseated but had not vomited. The day after admission to the hospital she still complained of severe chest pain now penetrating through to her back. She was still nauseated and vomiting. On day two her temperature went up to 101 degrees rectally. Her pain at this time was decreasing in severity and her blood pressure had fallen to 148 systolic and 78 diastolic.

Previous to admission a physical examination was done with the patient lying in a semi-Fowler's position. This examination revealed a blood pressure of 148 systolic and 78 diastolic. Her pulse was 84. Her respirations were somewhat rapid and she appeared apprehensive. The lungs were clear and the heart was slightly enlarged to the left, however the rhythm was regular and the tones were of good quality. No murmurs were noted. The abdomen was flat and soft with no areas of discomfort present except when deep pressure was applied.

Diagnostic laboratory tests that were done include blood chemistry, blood morphology, Shilling differential count, and urinalysis. All of these were normal except the blood chemistry which revealed an elevated blood glucose level of 174 milligrams per 100 c.c. of blood, the normal being 80-110.

As has been previously stated, MI has diabetes. In this disease there is a decrease in the secretion of insulin from the pancreas. Insulin increases the oxidation of glucose; therefore, if there were a decreased amount of insulin secreted, there would be less oxidation of glucose, resulting in an increase in the blood sugar level.

A coronary occlusion followed by a myocardial infarction may result in several complications. A cardiac aneurysm may develop or there may be a cardiac rupture. Other complications include congestive heart failure, thrombo-embolic phenomena, and ventricular fibrillation with death. The only complication experienced by MI was the development of moderate congestive heart failure shortly after she was discharged from the hospital on February 7, 1955. This was controlled by Crystodigin and diuretics.

THE PROGNOSIS of coronary occlusion is largely dependent on the size and location of the infarction. If the infarct involves a large area, the patient may die instantly or within a few minutes or hours. Some patients may live for a few days and then die possibly because of some complication. According to Emerson and Bragdon, about one half recover from the acute attack.[2] However, those who do recover are prone to repeated occlusions accompanied by more extensive infarctions. They may also develop heart failure.

MI's prognosis seems to be fairly typical. She has suffered from two infarctions now, and has recovered well from both. By following the instructions and treatment of her doctor, she may survive for several years. On the other hand, she may suffer from additional infarcts or may die because of one of the complications previously mentioned.

In discussing the treatment of coronary occlusion, one must keep in mind four principles underlying the care of all patients with any heart disease. Let us classify all the nursing care and treatment given to MI with these principles in mind.

THE FIRST principle is *to restore and maintain the efficiency of the heart.*

On admission to the hospital MI continued to receive Crystodigin 0.05 milligram daily which was later increased to 0.1 milligram daily. Crystodigin is a potent myocardial stimulant and acts directly on the cardiac muscle, increasing the force of the systolic contraction and the efficiency of a decompensated heart. It is used more as a preventive measure in cases such as myocardial infarction to prevent impending cardiac failure. Before administering Crystodigin to a patient, the nurse must always check the apical pulse and if it is below 60 beats per minute, she should not administer the medication without first notifying the doctor.

MI was also given nitroglycerine 0.32 milligram as needed. Nitroglycerine is a powerful and rapid-acting vasodilator. The purpose of giving MI this medication was to increase the coronary blood supply and thus prevent the pain resulting from loss of blood to the myocardium. Nitroglycerine is often considered to be an emergency drug and, if ordered by the doctor, it may be left at the patient's bedside for such use. It is the nurse's responsibility to see that the patient has an adequate supply of tablets at all times to use as specified by the doctor. It is also important to explain to the patient that the medication be placed under the tongue and allowed to dissolve.

A milder vasodilator that was used is Peritrate. MI received 10 milligrams of Peritrate three times a day and later four times a day. It was given for the same reason as nitroglycerine, but its action would continue long after that of nitroglycerine.

Another drug prescribed for MI was Dicumarol, an anticoagulant which decreases the prothrombin concentration of the blood. The reason for giving it to this patient was to prevent extension of the thrombus or the formation of addi-

[1] White, Paul Dudley: *Heart Disease.* 4th edition. New York, The Macmillan Company, 1951, page 532.

[2] Emerson and Bragdon: *Essentials of* Medicine. 17th edition. Philadelphia, J. B. Lippincott Co., 1955, page 286.

tional thrombi. When a patient is placed on Dicumarol therapy, a daily prothrombin time is done and the dosage of the medication is regulated according to the results each day. It is the responsibility of the nurse to see that the test is done and in some cases to inform the doctor of the daily results so that he can order the proper dosage. The usual dosage for MI was 50 milligrams. The nurse should also observe the patient closely for any sign of hemorrhage.

Atropine, an anti-parasympatholytic agent, was also given. Atropine increases the heart rate by blocking vagal effects on the S-A node or pacemaker of the heart.

The second principle of care for cardiac patients is *"to keep the activities of the body within the ability of the heart to carry the load."*[8]

A medication used for this purpose was morphine. Morphine sulfate is an analgesic used to relieve severe pain. In small doses it will also induce relaxation and relieve anxiety. The dosage MI received was morphine 10 milligrams in combination with atropine 0.32 milligram; this was given every six hours. By relieving MI's pain and anxiety, it allowed her to rest more easily, thereby causing less strain on the heart.

Since rest is of prime importance in the care of cardiac patients, medications are often ordered to provide continuous sedation. The first medicine of this type given to MI was Eskabarb. Eskabarb is a sedative which has the advantage of producing continuous sedation throughout the day or night with one oral dose. MI was given one spansule each morning and one at bedtime to insure complete mental and physical rest. On the third day after her admission, however, the Eskabarb spansules were discontinued and regular phenobarbital was ordered. The dosage given to MI was 16 milligrams four times daily.

The second day MI was in the hospital, the morphine and atropine were discontinued and Demerol 75 milligrams was ordered as needed for pain. Since Demerol is both an analgesic and an antispasmodic, it combines the actions of the other drugs and for this reason it could be classified under both of the principles mentioned thus far. However, I believe the main purpose for giving it to this patient was to reduce any pain she might have and therefore allow her to rest more adequately.

On admission to the hospital, MI was very short of breath. She was placed in an oxygen tent which relieved her dyspnea. On the second day after her admission she was permitted to be out of the tent for two hours, then back in for two hours. On the fourth day, the oxygen was discontinued. It is the nurse's responsibility when oxygen is administered to see that the tent is tucked in at all times and operating properly.

When MI was first brought to the hospital, she had the head of her bed elevated at all times to accommodate easier breathing. Later on, however, she liked to be rolled up in the daytime but preferred to be lying flat with only a pillow under her head at night.

MI was on strict bed rest which meant she was not allowed to give her own bath. A complete bath was given each morning by the nurses. At this time her dentures were cleaned for her. After she had recovered from the acute stage, she preferred to clean the dentures herself and her doctor let her wash her hands and face and comb her hair.

Being a diabetic, MI was placed on a soft diabetic diet. At first she was fed by one of the nurses; later she was allowed to eat by herself with everything conveniently arranged on the tray, and on her sixth day she was placed on a regular diabetic diet.

MI was very happy to be allowed to do these small things for herself, but she was very cooperative in not doing more than was designated. With prescribed increase in activity, she liked to have things conveniently placed for her use. Her bedside stand was pulled forward so she could reach it easily when the head of her bed was elevated. Her water glass and tissues were placed on her bedside stand and in the drawer she kept her comb and other cosmetics where she could reach them easily. She also liked to have her window open during the day and night unless it was too cold.

Milk of magnesia, 30 c.c., was ordered for her as needed to prevent constipation and reduce strain. On her ninth day in the hospital, MI was allowed to go with assistance to the bathroom for bowel movements. At this same time she was allowed to sit up in a chair for fifteen minutes twice a day. On her eleventh day she was allowed to sit up for thirty minutes twice daily.

MI presented very few problems as a patient. On admission she was very apprehensive, but this was treated not only by medications, but also by a sympathetic and reassuring attitude on the part of the hospital staff. She was a very cooperative and easy patient to care for; she responded well to treatment and progressed very well.

Another principle of care for the cardiac patient is *to protect edematous tissue.* MI had no edema.

The fourth principle is *to teach the patient and his family to live within his limitations.* Here it must be remembered that MI has diabetes; five days before she was discharged from the hospital the dietician came to the floor and instructed her on the same diabetic diet she had been receiving. This was really just a review for MI, since she had been on the same type of diet previous to her admission. In addition to the diet, the importance of her medication was stressed and she was carefully instructed as to its schedule. These medications included Dicumarol, digitoxin and Peritrate.

Evidently MI was not told a great deal about her disease; the fact that she had had a repeated myocardial infarction was kept from her. She did know, however, that she had heart trouble and would have to "slow down" because of it.

MI understood that she could not participate in as many activities when she went home as she did before. This seemed to bother her at first, but she adjusted to it well—even to the point where she could joke about it. When she left the hospital she was to go to her daughter's home. Here she was to be allowed out of bed for one hour each day. If she tolerated this activity well, she would be gradually allowed to help with small parts of the housework. This would include such tasks as dusting the tops of tables or assisting in the preparation of the meals by peeling potatoes and fixing salads, which she could do while sitting down. For a careful follow-up she was advised to visit her doctor at weekly intervals.

[8] Beland, Irene: *Nursing III — General Medical and Surgical Nursing Outline*, Wayne Univ., 1950, p. 34.

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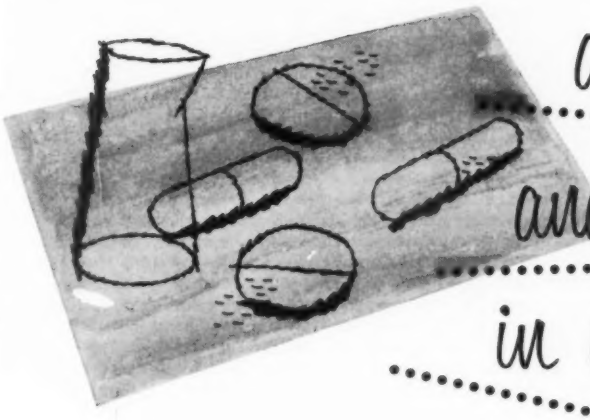

advances and trends in drug therapy

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Chemical Mediators In the Transmission of Nerve Impulses

This article proposes to tell the fascinating story of the discovery of chemical mediators in the transmission of nerve impulses. Subsequent issues of *Nursing World*, will tell of their important role in pharmacotherapeutics, as well as their tremendous impact on the synthesis of congeners today referred to as "autonomic drugs."

According to the concept of "neurohumoralism," nerve impulses elicit responses in smooth, cardiac, and skeletal muscles, exocrine glands, and automatic ganglia, through liberation of specific chemical substances. Dubois-Reymond, in 1877, proposed that transmission of nerve impulses may be produced either electrically or chemically by exciting substances like ammonia or lactic acid formed at the surface of nerve endings. In 1904, T. R. Elliot, while a student of physiology at Cambridge, England, postulated that sympathetic nerve impulses released minute amounts of an epinephrine-like substance in immediate contact with effector cells. Elliot's hypothesis was based on the similarity between the effect of stimulation of sympathetic nerves and the injection of epinephrine. He was further convinced by the fact that long after sympathetic nerves degenerated, the effector organs still responded characteristically to the hormone of the adrenal medulla. The following year, Langley suggested that effector cells have excitatory and inhibitory "receptive substances" and that the response to epinephrine depended on which type of substance was present. In 1907, Dixon was so impressed by the correspondence between the effects of the alkaloid muscarine and the responses to vagal stimulation that he advanced the important idea that the vagus nerve liberated a muscarinic-like substance which acted as a chemical transmitter of its impulses. Dixon concluded that "excitation of a nerve induces the local liberation of a hormone which causes specific activity by combination with some constituent of the end-organ, muscle, or gland." Unfortunately the scientific world looked upon Dixon's theory with skepticism and Dixon did not pursue this field of investigation. The same year, Hunt studied extracts of the adrenal medulla and discovered a blood-pressure-lowering principle. The potency of this extract decreased as the concentration of choline content rose. He looked for an ester-like precursor of choline and postulated that it could be acetylcholine.

In 1914, Dale reinvestigated the pharmacological properties of acetylcholine. Since this drug produced effects which "mimicked" faithfully the effects of stimulation of parasympathetic nerves, he introduced the term "parasympathomimetic." Dale also noted the brief duration of the action of this chemical and proposed that an esterase in the tissues hastens the hydrolysis of acetylcholine to acetic acid and choline. This enzyme has since been discovered and is now known as choline esterase.

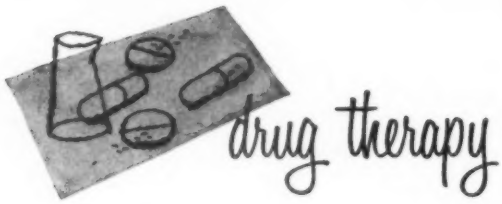
"Vagusstoff"

The first real proof of the chemical mediation of nerve impulses by the peripheral release of specific chemical agents was established in 1921 by the brilliant research of Otto Loewi. His strikingly simple experiment still remains basic to investigations in this field. Loewi stimulated the vagus nerve of a perfused (donor) frog heart and allowed the perfusion fluid to come in contact with a second (recipient) frog heart used as a test object. A substance was liberated from the first organ which slowed the rate of the second. Loewi called this chemical substance "*Vagusstoff*" the German word for vagus-substance. It was later called parasympathin and today is known to be chemically acetylcholine. Loewi also noted that an accelerator substance similar to epinephrine was liberated into the perfusion fluid when the action of the sympathetic fibers in the frog's vagus predominated over that of the inhibitory fibers.

It now remained to be demonstrated that such was also the physiology in warm-blooded animals with more highly organized nervous systems. In 1927, Rylant duplicated Loewi's frog experiments using perfused rabbits' hearts. In 1933 Felberg and Krayer, working with dogs, presented strong evidence that the vagus-substance is acetylcholine. Today the evidence is overwhelming that stimulation of parasympathetic autonomic nerves to smooth and cardiac muscle and to exocrine glands results in the release of a chemical substance which possesses parasympathomimetic properties and which acts upon effector cells to elicit their characteristic responses.

Not only does acetylcholine mediate the transmission of nerve impulses at peripheral autonomic effector organs, but also at autonomic ganglia. Preganglionic nerve impulses, whether sympathetic or parasympathetic, stimulate ganglion cells through the intervention of acetylcholine. Innervation of the adrenal medulla is comparable to that of an autonomic ganglion. Splanchnic nerve impulses to the adrenal gland result in the release of acetylcholine, which then stimulates medullary cells of the adrenal gland to secrete epinephrine.

A significant and therapeutically important concept of the chemical transmission of nerve impulses has resulted from the demonstration that somatic motor nerves to skeletal muscles release acetylcholine at their end-plate terminals. The transmitter function of acetylcholine is



not confined to the autonomic nervous system alone. Thus the differences between the autonomic and the somatic nervous systems become less rigid.

Investigations have been concerned with demonstrating the role of chemical substances, especially acetylcholine, in central synaptic transmission. Experimental results permit no categorical statement as to the exact role of acetylcholine in central synaptic transmission and do not show whether or not other chemical transmitters are involved.

Characteristics of Acetylcholine

Acetylcholine is present in tissues in a non-diffusible, physiologically inactive form not susceptible to hydrolysis by cholinesterase. An intact nerve supply appears to be essential for maintenance of the precursor acetylcholine content of certain effector organs. Denervated skeletal muscle, however, retains a considerable amount of its original precursor acetylcholine. Resting effector organs contain no detectable free acetylcholine, and the change from an inactive precursor to an active, diffusible, cholinesterase-susceptible form occurs by appropriate nerve impulses. The mechanism is poorly understood. It has been suggested that potassium ions released during the passage of nerve impulses may liberate free acetylcholine from a precursor protein complex, perhaps by cation exchange. Resynthesis of acetylcholine compensates for the loss due to enzymatic hydrolysis by cholinesterase. Thus a constant level of the ester is found in various tissues. The location and concentration of cholinesterase in the nervous system and autonomic effector cells is of utmost importance. There is not a single enzyme, but rather a "family" of enzymes which split acetylcholine. The enzyme which has the highest affinity for acetylcholine has been called specific or true cholinesterase or acetylcholinesterase to differentiate it from other cholinesterases in the blood and tissue which can also split acetylcholine but whose normal physiological substrates are as yet unknown. The latter are called the non-specific or pseudo-cholinesterases.

A large number of chemical substances inhibit cholinesterase. Inhibition of cholinesterase protects acetylcholine from hydrolysis, and its action is prolonged and intensified. To be pharmacologically significant as an anticholinesterase, a drug must be capable of inhibiting acetylcholine even though it is highly diluted in the body tissues. The most powerful drugs in this class are physostigmine or Eserine, neostigmine or Prostigmine, and DFP or diisopropylflurophosphate.

"Sympathin"

It has been noted that Loewi discovered in addition to parasympathin an accelerator substance released from the hearts of frogs when the accelerans nerve is stimulated. In the same year, 1921, Cannon and Uridil reported that the liver, upon stimulation of the sympathetic hepatic nerves, released an epinephrine-like substance which increased the blood pressure and the heart rate but did not dilate the pupil. Subsequent experiments established the fact that this substance is the chemical mediator liberated by sympathetic nerve fibers at neuroeffector junctions. Cannon named this mediator "sympathin" in order to avoid premature implications regarding its chemical structure.

Just as there are biological indicators for the presence of acetylcholine, so also are there specific tests for detecting "sympathin." These include acceleration of the rate of the denervated heart, elevation of the blood pressure, piloerection, and inhibition of intestinal musculature. With these tests it has been repeatedly demonstrated that when postganglionic sympathetic nerves are stimulated there is released at the neuroeffector junctions a chemical substance which has sympathomimetic properties.

In many of its pharmacological properties, Cannon's "sympathin" closely resembles epinephrine, but the two substances differ in certain important respects. Epinephrine elicits both excitatory and inhibitory effects when injected into the body. It accelerates the rate of the heart, but simultaneously inhibits the motility of the intestine. In contrast, the excitatory effects of "sympathin" can be elicited separately. The greatest contrast is found in the fact that while ergot alkaloids reverse the rise in blood pressure produced by epinephrine, they only reduce that caused by hepatic sympathomimetic nerve stimulation.

Experimental proof also indicates that epinephrine is formed by the methylation of norepinephrdine. Since both mediators are largely destroyed in the body, it has been suggested that enzymes such as monoamine oxidase may play a key role in the inactivation of epinephrine and norepinephrine at neuroeffector junctions.

"Chemical" Classes of Nerves

Dale in 1935 proposed that nerves be classified not only anatomically by physiologically. The terms "cholinergic" and "adrenergic" were proposed and have become an integral part of pharmacological terminology to designate the type of chemical activity by means of which nerve impulses transmit the excitatory process to effector organs.

It is recognized that the anatomical organization of the autonomic nervous system is such that the sympathetic division is geared for mass discharge while the parasympathetic division is geared for discrete discharge. It is concerned with the functions of conservation and restoration rather than with the expenditure of energy as is the sympathetic nervous system. It is now possible to correlate this information with the existence of chemical mediators and chemical classes of nerves.

The sympathetic nervous system is anatomically organized so that one preganglionic fiber makes contact with a score or more of postganglionic fibers. Because of this arrangement there is a greatly increased area of distribution of nerve impulses. In addition, sympathetic nerve impulses are re-enforced by epinephrine released from the adrenal medulla and by the adrenergic mediator which diffuses from structures receiving postganglionic sympathetic innervation to circulate in the blood and effect distant organs. Both norepinephrine and adrenalin may exert their influence for many minutes, and no drug analogous to Eserine is necessary to prolong their action by protecting them from destruction in the body.

In contrast, the parasympathetic nervous system is not only anatomically restricted to localized discharge, but the acetylcholine produced at cholinergic nerve endings is rapidly destroyed by the cholinesterases of tissues and blood. Therefore it does not circulate to distant parts and neither is there a special gland in the body for the production of circulating acetylcholine in the body as there is for epinephrine. Factors such as these allow each of the two divisions of the autonomic nervous system to function in controlling the constancy of the internal environment.

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ACETYLCHOLINE — PARASYMPATHOMIMETIC

DESCRIPTION: Acetylcholine was first synthesized by Baeyer in 1867, but for many years it was only of chemical interest. In 1914, Dale studied the pharmacological properties of acetylcholine and described it as a parasympathomimetic since in its effects it mimicked the responses of effector organs when they were stimulated by parasympathetic nerves. In 1921, with the discovery of parasympathin by Loewi, it was later proved that chemically the substance was acetylcholine.

ACTION AND EFFECTS: Acetylcholine acts directly on effector cells to elicit characteristic responses. This action is one of depolarization of the postsynaptic membrane. Cells reacting to the drug fall into two distinct categories, according to whether they are innervated by postganglionic cholinergic nerves (cardiac and smooth muscle cells and exocrine gland cells), or by preganglionic nerves or somatic motor nerves (autonomic ganglion cells, adrenal medullary cells, and skeletal muscle fibers). The action of the drug on these two groups of effector organs have been termed "muscarinic" and "nicotinic" actions respectively. Therapeutic doses of the drug produce little change other than vasodilation and a slight blood pressure fall, because of the rapid destruction of the compound and the efficient compensatory cardiovascular reflexes mediated through the caroticoaortic pressoreceptors. In addition, sympathoadrenal discharge produced by the nicotinic action of acetylcholine tends to prevent any marked alterations in heart rate and blood pressure. Although sufficiently large doses of acetylcholine cause increased tone, amplitude of contraction, and peristalsis in the stomach and intestine, and stimulate gastrointestinal secretions, practically no effect is noted in man unless doses approaching the limit of tolerance are injected intravenously.

USES: Acetylcholine has been sporadically used in Raynaud's disease, thromboangiitis obliterans, gangrene, varicose ulcers and hypertension. The drug has also been used in scleroderma, arthritis, atonic constipation, paroxysmal tachycardia, lead colic, tobacco amblyopia, and myasthenia gravis.

PREPARATIONS: Acetylcholine is not official and is not described in N.N.R. It is available however, in the form of chloride and bromide. Ampuls containing measured amounts of the sterile dry salts are available for preparing the aqueous solutions for parenteral injection.

DOSAGE AND ADMINISTRATION: The drug is practically inert when given by mouth because of its hydrolytic destruction by gastrointestinal enzymes. Consequently it must be injected parenterally or given by iontophoresis. The dose by hypodermic injection varies from 40 to 200 mgm.; the intravenous dose varies from 10 to 100 mgm.

TOXICITY: Side effects from the administration of acetylcholine are apparently minimal. The drug is better tolerated than the chemically related therapeutic agent, methacholine. Atropine should be available for immediate injection to counteract the untoward responses that might occur.

PRECAUTIONS: The administration of the drug by iontophoresis is best undertaken by those thoroughly acquainted with the technique. Such application is not made directly over ulcers or open wounds and is made only with care over scar tissue. Patients taking the drug should be recumbent while the drug is being given.

CARBACHOL — PARASYMPATHOMIMETIC

DESCRIPTION: Carbachol is a synthetic derivative of choline. The drug was introduced into therapeutics as a substitute for acetylcholine. In certain clinical conditions it is preferred to other choline esters.

ACTION AND EFFECTS: Carbachol is a powerful parasympathomimetic agent and differs from methacholine especially in being more stable in body fluids and insusceptible to hydrolysis by cholinesterase and in possessing nicotinic actions on autonomic ganglia. Effects from carbachol appear more slowly and last much longer than they do from methacholine. A sensation of warmth and flushing of the face are the first evidence of action; sweating, lacrimation, and salivation occur later and are not nearly as prominent as after methacholine. There is audible peristalsis, and desire to urinate 15 to 20 minutes after the drug has been administered. The diastolic pressure often, but not always, falls slightly and the pulse rate rises somewhat. As a rule, the largest doses which can be tolerated cause severe intestinal effects before the blood pressure is greatly altered.

USES: Carbachol is administered to patients with peripheral vascular disease with a possible result of increased peripheral circulation. This is true especially if angiospasm rather than organic occlusion predominates. Favorable results have been obtained from the use of carbachol in patients with urinary retention occurring after surgical operation, childbirth and lesions of the spinal cord, thus circumventing the necessity for catheterization. Carbachol may be of use in myasthenia gravis, since it does increase muscular power in these patients. The drug has also been used to reduce increased intraocular tension in cases of chronic, noncongestive glaucoma. The drug is sometimes of benefit in ozena. It has been used to promote gastric emptying time in vagotomized patients.

PREPARATIONS: Carbachol, U.S.P., is also known as Doryl, Lentin, and Carcholin. It is available in 2 mgm. tablets, in ampuls containing 0.25 mgm. in 1 ml. of sterile solution, and as a powder for the preparation of solutions for application to the eye and nasal mucosa.

DOSAGE AND ADMINISTRATION: The drug is not suitable for administration by iontophoresis owing to the high incidence of systemic reaction. The oral dose varies from 0.2 to 0.8 mgm. two or three times daily, depending on the patient's tolerance and the results desired. The single subcutaneous dose ranges from 0.2 to 0.8 mgm. Carbachol should not be injected intravenously. In weak solution, 0.1 per cent carbachol may be applied locally to the nasal mucosa or conjunctiva.

TOXICITY: Malaise, headache, abdominal discomfort, nausea, belching, peristaltic waves, colicky pain, diarrhea, flushing, a sensation of heat about the face, asthmatic attacks, and a fall in blood pressure are among the prominent reactions noted. The gastrointestinal reactions are more prominent than the cardiovascular.

PRECAUTIONS: The ordinary therapeutic dose of atropine 0.6 mgm. antagonizes the untoward effects of large doses of carbachol much more slowly than those of methacholine, and an increased amount of atropine may be necessary. One of the most important precautions with carbachol is not to interchange ophthalmic and parenteral preparations. Several deaths have resulted from the injection of very large doses of carbachol, a solution for ophthalmic use having been employed instead of that for parenteral administration.

BETHANECHOL — **PARASYMPATHOMIMETIC**

DESCRIPTION: This drug is chemically Beta-methylcholine carbamate introduced into therapy as a substitute for the more unstable acetylcholine.

ACTION AND EFFECTS: Bethanechol is quite stable and is not hydrolyzed by cholinesterase. Consequently, its action in the body is of long duration. The nicotinic effects of the drug are feeble or absent. The muscarinic effects are exerted mainly on the urinary bladder, the gastrointestinal tract and the eye. Cardiovascular actions of bethanechol are minimal. The drug is about one-tenth as potent as carbachol, but its margin of safety is greater. When the drug is administered subcutaneously, the main effects are stimulation of the urinary bladder and of the gastrointestinal musculature. Consequently, the most commonly experienced symptoms elicited by the drug are a desire to void and increased peristalsis. Even with larger doses, cardiovascular responses are inconspicuous and transient, and sweating, flushing, and salivation are minimal.

USES: Bethanechol is useful in combating urinary retention when organic obstruction is absent, as, for example in post-operative and post-partum retention and in certain cases of neurogenic bladder. Gastric vagotomy and retention following bilateral vagotomy for peptic ulcer are often satisfactorily relieved by this drug. Bethanechol increases the volume and the acidity of secretion of the vagotomized stomach and hence should be given only with meals. The drug has been employed for post-operative gastric atony other than that associated with vagotomy. The drug is used both therapeutically and prophylactically in cases of postoperative abdominal distention.

Preliminary study indicates that the drug may also be of use in selected cases of congenital megacolon. There is also some indication that it may be of value in chronic noncongested glaucoma. There is preliminary evidence that bethanechol, by simultaneously stimulating pancreatic enzyme secretion and constricting the ampullary mechanism, may increase the serum amylase level and thereby provide a useful test of pancreatic function.

PREPARATIONS: Bethanechol Chloride, U.S.P., or Urecholine Chloride, N.N.R., is available in oral tablets containing 5 mgm. of the drug, and as a sterile aqueous solution in ampuls containing 5 mgm. in each milliliter.

DOSAGE AND ADMINISTRATION: The oral dose for adults varies from 10 to 30 mgm. The usual subcutaneous dose is 2.5 mgm to 5.0 mgm. Three to four doses may be given daily. The action of the drug starts within thirty minutes after oral ingestion and lasts for one hour or more.

TOXICITY: Side effects are more common after subcutaneous than after oral administration, and include headache, flushing, abdominal cramps, diarrhea, sweating, asthmatic breathing, and occasionally a fall in blood pressure. Atropine should be available for prompt parenteral injection in case of need.

PRECAUTIONS: The drug is particularly contraindicated in persons who have asthma, hyperthyroidism, peritonitis, or mechanical obstruction of the respiratory tract. Bethanecol should never be administered by the intravenous or intramuscular route.

METHACOLINE — **PARASYMPATHOMIMETIC**

DESCRIPTION: Methacholine is a synthetic preparation chemically related to acetylcholine. Its synthesis was the result of a search for synthetic choline esters which would be more useful in therapeutics than the parent compound.

ACTION AND EFFECTS: Methacholine exerts its characteristic actions in the body in a manner similar to acetylcholine. The drug is less readily hydrolyzed by cholinesterase than is acetylcholine. This is the basis for its longer duration of action. After adequate doses of methacholine, the peripheral vessels dilate, the blood pressure falls, and the heart rate accelerates, usually without preliminary bradycardia. In moderate subcutaneous doses methacholine causes an increase in tone, amplitude, contraction, and peristalsis of all parts of the gastrointestinal tract. Methacoholine causes bronchoconstriction and increased bronchial secretion. Lacrimation, rhinorrhea, salivation and sweating are prominent symptoms of the drug's action. Methacholine contracts the detrusor muscle of the urinary bladder and decreases bladder capacity.

USES: In patients with essential or nephritic hypertension, a small dose of methacholine given subcutaneously causes a moderate to a marked decrease in blood pressure. The drug has been administered in order to produce vasodilation. When administered by iontophoresis methacholine increases cutaneous flow by as much as three- to six-fold. In Raynaud's disease the drug may afford marked benefit in some patients despite complications such as scleroderma. Other peripheral vascular diseases reported to show improvement after therapy with methacholine include phlebitis, chronic varicose ulcers and Buerger's disease if there is an associated spasm. The drug has also been employed successfully for paroxysmal tachycardia. It has been used to terminate and not to prevent attacks. In atrial flutter and atrial fibrillation the drug is rarely successfully utilized. It is used to relieve abdominal distention as a result of postoperative ileus or acute infectious diseases. In atonic constipation, large oral doses cause comfortable laxation. The drug seems promising in children with megacolon. Methacoline may also be effective in relieving urinary retention postoperatively.

PREPARATIONS: The drug is marketed as Methacholine Chloride, U.S.P., and as Methacholine Chloride Injection as a 1 per cent aqueous solution in ampuls. The chloride is also available in bulk for preparation of solutions for oral or iontophoretic administration. Mecholyl Bromide, N.N.R., has chemical properties similar to those of the chloride.

DOSAGE AND ADMINISTRATION: The effective oral dose varies considerably, although the initial dose should be from 50 to 100 mgm. repeated several times daily. The drug should be given with milk to avoid epigastric distress. The subcutaneous route is preferred for most purposes. The range of dosage varies from 2.5 to 40 mgm. or more. In peripheral vascular disease the drug may be administered by iontophoresis. An aqueous solution of 0.2 to 0.5 per cent is utilized and treatments are usually given twice weekly.

TOXICITY: Overdosage may result in an alarming but transient syncopal reaction with cardiac arrest and loss of consciousness. Nausea, vomiting and attacks of asthma also are signs of overdosage. Transient complete heart block may be induced, and a short period of atrial fibrillation has been observed in hyperthyroid patients. Patients with hypertension may respond with a precipitous drop in blood pressure.

PRECAUTIONS: The intramuscular or intravenous injection of atropine, 0.5 to 1.0 mgm. intramuscularly or intravenously, should be given to counteract severe toxic effects. The patient must be kept recumbent. Epinephrine can be used to relieve attacks of bronchial asthma. It is always advisable to test the patient's response to a small dose of methacholine before beginning with a larger one.

THE BOOK SHELF

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The Foundations of Human Behavior: Dynamic Psychology in Nursing. By Thersa Grace Muller, R.N., A.M., Professor of Nursing, Educational Director, Graduate Studies in Psychiatric Nursing, The University of Nebraska. Foreword by William I. Hunt, Chairman, Department of Psychology, Northwestern University. G. P. Putnam's Sons, New York, 1956. 254 pages. Price $4.50.

One of the basic principles that guide the professional nurse to action is understanding the behavior of the patient. This principle is so fundamental that no amount of theory can assure success in the practice of nursing without a thorough knowledge of its application. The fact that each individual is a unique human being by virtue of his physical characteristics, his culture, religion, education and experience makes it necessary for the nurse to have a broad background of knowledge. It is this uniqueness that determines a patient's interaction with others, his responses to illness, and the ways in which he handles anxieties, fears, and tensions. The nurse's understanding of individual behavior patterns will enable her to plan the care of the patient more effectively.

The author's long experience in psychiatric nursing especially qualifies her for assessing and interpreting concepts of normal and abnormal behavior. The content material is drawn from actual class situations and discussions. Psychiatric and mental health principles are incorporated throughout the book. Topics that are seemingly difficult to understand are clarified by illustrations and case analysis. The references to specific assignments within the content may be distracting, but emphasis upon them is intended to help the student.

The material is divided into four parts: Part I. Study of Psychodynamics; Part II. Driving Forces of Human Nature; Part III. Understanding the Dynamics; Part IV. Dynamics of Human Relationships; and Appendices. The book is very interesting in subject matter and practical in application. As stated in the introduction, much of the material is based on formal class discussions and has a didactic flavor. Nevertheless, the book is excellent; it should be helpful to all professional nurses who are seeking a down-to-earth explanation of the dynamics of human behavior, and as a text for students in basic nursing.

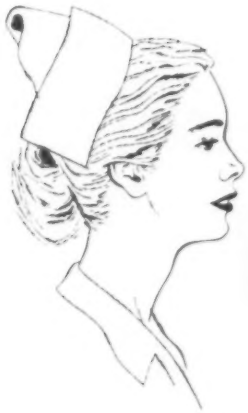
Fundamentals of Nursing—The Humanities and the Sciences in Nursing. By Elinor V. Fuerst, R.N., M.A., Assistant Professor of Nursing, Cornell University—New York Hospital School of Nursing, New York. Formerly Test Editor, Department of Measurement and Guidance of National League of Nursing Education; Educational Director, Christ Hospital School of Nursing, Jersey City, N. J. and Lu Verne Wolff, R.N., M.A., Research Associate, Institute of Research and Service in Nursing Education, Teachers College, Columbia University, New York, Formerly Supervisor in Nursing, State Education Department, Albany, N. Y.; Assistant Director of Nursing Service and the School of Nursing, American University of Beirut. J. B. Lippincott Company, Philadelphia, 1956. 592 pages. Price $5.00.

As so well expressed by Virginia Dunbar in her foreword to this text, "Of necessity, the nurse of the 19th century devoted a great part of her time to 'things.' By so doing, she brought about a revolution in housekeeping which was a wonderful and a very necessary contribution to the improvement of patient care." While many changes have occurred in nursing practice, these were inevitable with the changes in our social structure. The fact that nursing has not been static is an indication that it is a living element of society itself. The struggle to attain professional status has of necessity brought a realignment of functions and allocation of duties. In the reallocation of duties, professional nurse practice is patient centered and involves the patient in a variety of ways. The professional nurse functions in a variety of settings that require many skills and abilities.

Departing from the traditional introduction to nursing practice, the authors describe the situation in professional nursing realistically and discuss the essential skills that today's professional nurse needs to develop. Various attempts have been made to develop nursing principles, but these are not easy because they are drawn from many scientific sources. The principles formulated in the various chapters that follow are meaningful and make sense. Principles are emphasized as guides to action, so that the nurse will know "why a procedure is done a certain way" as well as "how it is done."

The subject matter is divided into eighteen units. Unit One—Nursing and Its Opportunities and Responsibilities. Unit Two—Principles Serving as Guides in the Practice of Nursing. Unit Three—Practices of Asepsis Which Help Prevent Illness. Unit Four—Preparation of an Environment for the Care of a Patient. Unit Five—Admission to a Hospital. Unit Six—Teaching as an Integral Part of Nursing. Unit Seven—Practices Concerned With Hygiene and Healthful Living. Unit Eight—Meeting the Needs of Patients Having Modified or Restricted Activities in Their Daily Living. Unit Nine—Helping to Meet the Spiritual and the Emotional Needs of Patients as a Part of the Rehabilitative Process. Unit Ten—Meeting the Needs of Patients Having Disturbances of Elimination From the Intestines. Unit Eleven—Meeting the Needs of Patients Having Disturbances of Elimination From the Urinary Bladder. Unit Twelve—Heat, Cold and Counterirritants as Comfort and Therapeutic Agents. Unit Thirteen—Routes and Methods by Which the Nurse Administers Drugs and Gases. Unit Fourteen — Therapeutic and Diagnostic Measures for Which the Nurse Usually Assists. Unit Fifteen—Practices Used in the Care of Wounds and the Application of Dressings. Unit Sixteen—Administering Instillations and Irrigations. Unit Seventeen—Controlling the Spread of a Communicable Disease. Unit Eighteen—Care of the Terminally Ill Patient and of the Body After Death.

This book is an excellent text for students in the basic course in nursing. It is authoritative and reflects extensive research by the authors. There is a list of additional references at the conclusion of each chapter. The book is very well written, is interesting, and has considerable new information.



THE DYNAMICS OF HUMAN RELATIONSHIPS

Let's talk it over

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NURSING practice is founded on relevant associations to our sensory impressions. Here we will find that observations are made not only by the visual sense, but also by all the others, as noted in the November article, which put us in touch with internal and external objects and conditions. Thus, we may find in common some observations similar to those revealed by a picture in two dimensions, without giving too much thought to the fact that a flat surface generally hides the perspective of a third dimension as viewed through a stereoscope. Some lives are lived on a two-dimensional plane of flatness by never acquiring the necessary ability to see beyond the surface reflection. Unfortunately, two-dimensional observations are sometimes incorrectly identified as the objectivity of a researcher.

We have learned that our feelings can distort a reality about conditions, people and things. But feelings are also true indicators of reality and thereby give the proper nuances to sensory impressions. It is just as though we were to shut out the view of a shadow because it distorts the real thing before us, when what is required of us is to be able to distinguish between the shadow and what it reflects. A third dimension is revealed by our ability to see with the mind's eye which invests the immediate impression with past experiences. The objective reality may or may not be similar to any previous perception, but a flat view will maintain a sameness even when conditions have changed. Such a view gives an erroneous basis for appropriate nursing care or for arriving at scientific conclusions no matter how carefully treatment plans are outlined or the design established for a piece of nursing research. Communications, then, between people are necessarily modified by their different experience backgrounds, and each context thus founded will be woven from varying kinds and degrees of a person's development in percept and concept formation. How, then, do we meet on common ground when we communicate with each other?

Several years ago, at the 1952 Congress of the American College of Surgeons, a discussion centered around the site of herpetic lesions as sequelae of the conventional operation for trigeminal neuralgia. It seems that a unilateral location had been established and medical students who learned this to be so failed to see any other lesions when queried. However, photographic impressions showed them the bilateral actuality.[1]

Our common impressions, more often than we realize, similarly become invested with limited or stereotyped meanings. For example, any one of us will respond differently to a question about a chair, and we might well consider how meanings evolve about such a familiar piece of furniture. Some light will then be shed on the basis for different views of any everyday object to which we have become accustomed, or the new ones with which we are struggling to familiar ourselves. Generally a child becomes aware of a namele object and tries out several different relations to it, such climbing, pushing, and sitting on a chair. By the seco year, he responds to the word "chair" by pointing or sitti on one, rather than by telling about it. Later, at five ye of age, the chair will be explained in terms of use as so thing to sit on. Then, an identification with its composit of wood or some other material may lead to further app ciation of its classification as a kind of furniture. In t course of normal progression, by the age of ten, a child w reveal varying abilities to relate the differences and simil ities of a chair to other objects. Thus, we may see h meanings arise out of one's life associations to become crystalized version or a definition which is difficult to pa on to another by words alone. However, similar to a chi in its early reactions to concept formation, we tend respond to non-verbal expectations in our professional a vancement until sufficient ability has been achieved to co ceptualize and to verbally communicate our understanding

As an example, I have in mind an assistant head nur who was an artist in carrying out the required procedures f admitting a patient to a small psychiatric unit in a gener hospital. In fact, she was an active participant in the form lation of those very procedures. In my dual role of supe visor of the unit and instructor in psychology and psychiatr nursing for basic students, I found a realistic basis for t inservice education of graduate nurses who were associate in their work with students. It seemed as though the admi sion procedure might well be taught by the nurse who s capably was able to demonstrate it. However, her first r action to the suggestion was to reject the idea. She coul work well with students by doing whatever was necessar and even gave spontaneous and delightful associations to pa experiences which anticipated the possibilities in a curre situation. But communication as a teaching function seeme formidable and implied a verbal ability in which she fe inadequate. However, she accepted help in preparing for t assignment and gave the students an inspiring and helpf orientation to something she now acknowledged she coul do very well and thereby share with others. She has sin become a well qualified teacher.

By contrast, I should like to relate the experience of former student who went into a teaching position near great university where practice teachers were sent out fo experience from time to time. She was overwhelmed by request that a month's opportunity be provided for a practic teacher along the lines of an outline prepared without an orientation to the practice field itself. Her own preparation had been founded on the belief that teaching a clinical sub

t necessarily arises out of the available knowledge about but that this can be generally ineffective unless associated h the current possibilities of a practice field, and the stage receptivity of the students to be taught. Such experience not gained by preparing a teaching guide for content and thodology without regard to clinical applications or the tus of the students in the course.

These two examples will illustrate the fact that a large rt of our communication in nursing practice lies in demonration rather than in talking. However, talking which fails be properly identified with practice can be rather sterile. ck of verbal ability keeps us from effective collaboration th associated disciplines. It is also a basis for failure to arly establish our personal and professional identities.

In this connection, I might share with you a fairly recent perience with a small group of graduate students. After wing a kinescope portraying an amnesia patient, each dent spent a few minutes in writing down her immediate pressions. These, then, were shared with each other and came the basis for further discussion.

The script was excellent and the production of "Lost"[2] s exceptionally well done. The story unfolded through a matized recital by the members of the patient's family, ends, and other people who had come into contact with m before or during the amnesic episode. A nurse featured the last scene, but not a single comment was made about r in the discussion. I shared my observation of this omison with the assembled group and, further, attributed this be based on a deeply ingrained lack of personal and ofessional identity.

This lack of identity is probably a reason for some of e discontent about our present structures in nursing organation. But the fault does not lie in the existing structure one, any more than it might lie in our bodily structure when e fail to use the parts in accordance with their specific nctions. Note must also be taken that each function relies the effectiveness of the others to which it is related and hen something happens to a single part, the others will ed to go through a period of modification or compensation proportion to the dependence of the one upon the other. erein lies the necessity for clarifying the meanings of divion and differentiation.

Thus, professional organization is effective in proportion the self-identities of its members, who then may more early realize the purposes for which it is established as a eans to further a professional goal. On the other hand, we ight conform to the necessary conventions in upholding rganizational structure as an end in itself, and then not alize how this reflects a need for a sort of materialization fulfillment of an existing empty void from failure in tablishing one's self-identity. Fruitless striving, then, eates further barriers by setting up divisions such as, for stance, nursing education and nursing service as though ch was in truth a separate and unrelated division instead two equally important parts of a whole. It seems as though e current status accorded to nursing education is a limited ew of the real aspects of our professional identity which ils to see how the content for education of nurses resides our practice. Changes in practice will most certainly ter teaching content. These two parts of the whole, then, e practice and the preparation of the practitioners for it, ust be regarded as equal. The two examples of teaching ven in one of the foregoing passages will show that differntiation of function does not necessarily imply division.

In the first example, I saw myself as the educator of all rsing personnel and in this role needed to evaluate and aw upon the most effective resources within a nursing unit. hen the organization is relatively large, some of these reources may be identified in advance and established as posiions. When it is relatively small, nothing need be lost by a different pattern of organization where several functions are effectively carried out by fewer persons. We need to look critically at what we are doing when we divide or differentiate.

I was forced to look at these views of nursing a few years ago when I accepted a position as state director of psychiatric nursing. The opportunity attracted me through the way the newly created position was described, to provide appropriate education for selected personnel in different kinds of services. This required programs of study for graduate nurses leading to a baccalaureate or master's degree, and other types of inservice education for graduate nurses and non-professional nursing personnel. Much to my surprise, letters of regret came to me from friends who were sorry to see me leave nursing education! I was properly identified as a member of a university faculty, and an instructor in one of the colleges, but the stereotyped version of the kind of position I held was with the supervision or policing of services. The enlightened philosophy which had attracted me to the work in that state was later shattered by a political change, but not before the positive effects of a program of supervision based upon the creative use of resources within the services themselves had been satisfactorily demonstrated. This remains with me as one of the most valuable experiences in my life.

Nurses will need to understand more fully their importance in the psychological effects they have on patients. Some interesting highlights about this matter were given at the 1956 Mental Hospital Institute.[3] The academic lecture presented some of the ways by which research studies on drugs are affected by what is termed the placebo effects of the personalities of the dispensers of the drugs. Two illustrations stand out as concerned primarily with nurses. In the first instance, the drug had been considered generally effective by comparison with the effects of the placebo given concurrently to a control group. However, when a renewal order of the drug became necessary, a company representative admitted that, in error, the placebo had been sent first. Thus, it was concluded that the favorable results obtained by the placebo evidently had come from the confidence generated by the favorable expectations of the personnel administering it rather than from any drug itself. Another possibility of the distortion of the truth in an experimental study was revealed when the physiological effects of a drug which had been considered fairly constant were altered by a change in the psychological climate engendered by the nursing personnel. No changes in the staff itself had been made. Nevertheless, a change had been injected by asking the nurses to participate in a sociometric study in which they were to indicate which patients they liked best or least. The necessity for a decision in this matter aroused considerable anxiety from the nurses who felt an ethical concern about making distinctive preferences with regard to any patient.

Thus, we may see the necessity for adequate self-understanding. The elements to be learned and experienced may require considerable effort which we would willingly bypass in favor of an easy solution handed to us by another. But, if we are to become confident in our association with other professional groups, then, we will need to establish some certainty about ourselves.

Next month, we might profitably begin to see somewhat how insights are established.

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First among the five most common causes of death is disease of

The Heart...

Vital organ, Vital problem

by Carmen F. Ross, R.N.
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Public and professional education can help in the fight against the nation's number-one cause of death. The American Heart Association can supply films, teaching aids and guest speakers free of charge. (Photo by Ardmore.)

HEART Disease today is the lea
ing cause of death. Statistician
reported that in 1955 almo
820,000 deaths occurred and that a
proximately 10,000,000 people suffer
from some form of heart and circulato
disease. Cold facts, you might thin
but what does this really mean?

First of all, if we were to estimate th
mortality rate, we would note that
per cent of all deaths at all ages wer
due to these disorders and that the ne
five causes of death (cancer, accident
pneumonia, diabetes and cirrhosis of th
liver) did not even approach this figu

Next, and particularly important t
the economist, we would discover th
an annual economic loss of $2½ billio
occurred and that more than $300,000
000 in federal tax income from lo
earnings was involved.

The morbidity rate indicates that on
out of every sixteen people has som
type of heart disease, and this include
500,000 school-age children. Hig
blood pressure (hypertension), rheuma
tic fever, and hardening of the arteri
(atherosclerosis) are the three disorder
that account for about 90 per cent of a
heart disease.

In addition we must remember th
many social and emotional facts tha
both the patient and his family fac
when heart disease occurs, for these ca
not be measured by cold statistics. Th
emotional factors and psychosomati
possibilities are two important aspect
that need serious consideration as w
face the facts in caring for the cardiac

The heart, a hollow, muscular organ
weighing less than a pound and the siz
of a man's fist, pumps nine to ten ton

Students studying the anatomy and physiology of the heart and circulatory system review class material together.

blood every day through the body, changing the entire stock of blood about ce a minute. A wall divides the heart vity down the middle into the "right" d "left" heart. Each side is divided to an upper chamber (atrium or auri- e) and a lower chamber (ventricle). he two main chambers pump the blood the lungs for oxygenation and when ey contract the contraction is called ystole" while the relaxation period uring which the chamber fills again is nown as "diastole." This cardiac cycle repeated sixty to eighty times per inute. Various valves regulate the flow blood through the heart.

The circulatory system transports even pints of blood to and from all the dy tissues and organs, each of which eeds oxygen, nutrients, hormones and lements from the blood to carry on its signated task. The blood stream also arries away waste products. The ves- ls that carry blood from the heart are nown as arteries, while the veins carry e deoxygenated blood back to the eart and lungs for a fresh supply of xygen. Capillaries link the arterial and enous systems and it is through their alls that the exchange of food and aste materials occurs.

Pulse

The expansion of the arterial walls ccurring with each ventricular contrac- ion is known as the pulse which can be lt with the fingertips through a per- on's skin where a superficial artery is resent. The radial artery of the wrist, sually the easiest accessible, is used for btaining a pulse rate but the facial, emporal, carotid, femoral or dorsalis-pedis artery may also be used. The pulse rate is obtained by counting each expansion in a certain period of time. When taking a person's pulse the rate, rhythm and volume as well as condition of the arterial wall should be noted.

The pulse rate varies just like blood pressure and the normal range as accepted by the American Heart Association is from fifty to one hundred beats per minute. However, when blood pressure increases, the pulse rate will usually decrease. An elevated temperature will usually be accompanied by a seven- to ten-beat increase in the pulse rate for every 1° F. or 0.6° C. of elevation above normal. A pulse rate over 120 beats per minute is known as "tachycardia" and when below 60 beats per minute is referred to as "bradycardia."

Normally, the pulse rhythm is regular and the time intervals between beats are equal; if it is irregular, the condition is called "arrhythmia"; and if the time intervals vary, it is called an "intermittent" pulse. The volume of each pulse beat should also be equal but if the volume is small it is called feeble, weak or thready; if it is heavy and large as well as difficult to obliterate, it is referred to as full and bounding.

When the radial pulse is irregular, the physician may want the pulse taken simultaneously by two persons. One should count the pulsations at the wrist and the other the sounds at the apex of the heart. The difference between the apical and radial counts is called "pulse deficit."

Blood pressure varies with a person's activity, age, sex, emotional make-up, and physical condition, but the systolic normal range is usually 110 to 140 millimeters of mercury and the diastolic range is 70 to 90. The sphygmomanometer (blood pressure apparatus) and a stethoscope are used to obtain blood pressure readings which show the pressure under which the blood in the arteries is maintained. Accurate readings are most important at all times and no one should attempt this procedure without careful instruction, supervision and checking. Persons whose blood pressure is above normal are in a state of hypertension and a blood pressure below average is called hypotension.

Hypertension

High blood pressure is not always a serious disease. It is, however, serious when a very high level, especially of the diastolic pressure, and poor resistance of the heart and arteries to the increased pressure within are present. It is not a disease, but a symptom that indicates that the heart is working harder since the arterioles through which the blood passes are becoming narrower, and thereby, hardening and scarring of the arteries, formation of an arterial clot, as well as other complications may occur.

The heart will be temporarily or permanently damaged if one of the arteries is narrowed or closed. If brain arteries rupture or are blocked by a clot, apoplexy or a stroke may result. The kidney's efficiency as a waste remover is lowered when its blood supply is reduced, and uremia may result when the toxins can not be removed.

Many people with high blood pressure have very few symptoms and the

Good teaching is a two-way process. Here the author and a group of students discuss the coronary arteries.

The nurse must know many medications and their effects.

Students in "Lab. Session" practice taking blood pressure.

nature of the symptoms can vary, b among them may be headaches, dizi ness, shortness of breath, heart pain an failing memory. Most patients by fo lowing their doctor's orders explicitl can do more for themselves than can b accomplished by surgery or drugs. The should avoid all mental strain, watc their weight, have sufficient rest an recreation, and remain calm.

Varicose Veins

Most people consider varicose vein mainly an uncomfortable and unsightl problem, but the sufferer from varicos veins would report more serious aspect Varicose veins if untreated become pro gressively worse and may cause bloo clots, ulceration of the skin, abscess fo mations and hemorrhages.

The treatment for varicose veins de pends upon the condition and may var from using elastic stockings to surgery Doctors have estimated that 75 per cen of both ligations and stripping opera tions are permanently successful. The prevention of varicose veins includes no wearing tight or constricting garments sitting instead of standing, elevating fee when possible, avoiding obesity and ex amining the legs from time to time.

Children and Heart Disease

Most heart disease in children is the result of rheumatic fever which usuall occurs between five and fifteen years o age. There is no specific test for diag nosing it; and it is an insidious infec tion mimicking a variety of other dis eases. The initial and recurrent attacks of rheumatic fever are precipitated b infections with beta hymolytic strepto cocci. In most instances, rheumatic feve can be prevented by early and adequat treatment of these infections with anti biotics, usually penicillin. Such treat ment also aids in further prevention o streptococcal infections in rheumatic individuals.

Congenital heart disease, today, is no the serious problem it was in the past. With the recent advances in surgery many defective hearts have been im proved so that a child may lead almost a normal life. The three most common congenital heart abnormalities which can be aided by surgery are patent duc tus anteriosus, tetralogy of Fallot or "blue baby," and coarctation of the aorta. Often after surgery there is such dramatic improvement in a child's con dition that it is difficult for parents and teachers to understand that the former semi-invalid can now run and play and lead a normal life.

Coronary Atherosclerosis

Atherosclerosis, a form of arteriosclero osis, involves the thickening and harden ing of the artery walls. It begins when a fatty deposit (cholesterol) forms an atheroma in the inner lining of the ar

rial wall. Later, calcification within e artery and scarring of the lining of e arterial wall occur.

Coronary thrombosis is the forming, the coronary artery, of a clot which locks the blood supply to a part of the eart muscle. The heart attack is haracterized by a sensation of severe eavy pressure under the breastbone, a eeling of faintness, and the presence of old perspiration in some cases. This ccurs when a portion of the heart muscle, although cut off from its oxygen-arrying blood, attempts to do its work long with the rest of the heart.

Angina pectoris, or strangling in the hest, may occur in a mild or in a severe orm. The pain is usually located under e breastbone and may radiate to the rm. It is often confused with gas pain nd may occur irregularly or even regularly, depending on the individual situaon. It is usually due to the fact that e heart muscle is deprived for the oment of oxygen sufficient for its needs. he habits of a person's life are much ore important than the use of drugs, ut usually nitroglycerine gr. 1/200 to /100 (0.3 to 0.6 mgm) under the ongue will give relief. Substitute circuation is usually developed and it is ssential to avoid unnecessary worry, verexertion, hurry and overeating.

Compensatory or collateral circulation ill occur when certain arteries become arrowed and can not deliver the necesary blood. Through various connections anastomoses) these branches finally each the deprived part of the heart uscles and with the substitute circulaon present the person may begin to esume his activities. Rest, avoidance of eavy mental and physical strain, and ss of weight are usually essential beore this can take place.

The Classification of Cardiac Patients

Patients are first classified according their functional capacity. Class I includes those patients with cardiac disase but without resulting limitations of hysical activity; ordinary physical acvity does not cause undue fatigue and alpitation. Class II includes patients ith cardiac disease resulting in slight mitation of physical activity; they are omfortable at rest; ordinary physical ctivity results in fatigue, palpitation, yspnea or anginal pain. Class III enompasses patients with cardiac disease esulting in marked limitation of physal activity; they are comfortable at st; less than ordinary activity causes atigue, palpitation, dyspnea or anginal ain. Class IV patients are those with ardiac disease resulting in inability to arry on any physical activity without iscomfort; symptoms of cardiac insuffiency or of the anginal syndrome are resent even at rest; if any physical activity is undertaken, discomfort is increased.

The therapeutic classification of patients with heart disease is as follows: Class A includes patients with a cardiac disease whose physical activity need not be restricted, while Class B encompasses patients with cardiac disease whose ordinary physical activity need not be restricted, but who should be advised against severe or competitive physical effort. Class C contains patients with cardiac disease whose ordinary physical activity should be moderately restricted, and whose more strenuous efforts should be discontinued, while patients with cardiac disease whose ordinary physical activity should be markedly restricted are in Class D and patients with cardiac disease who should be at complete rest, confined to bed or chair, are included in Class E.

There are patients in whom no cardiac disease is discovered but whose course should be followed by periodic examinations because of the presence of history of an etiological factor that might cause heart disease. These cases should be recorded as *"No Heart Disease": Predisposing Etiological Factor,* and it is essential that the etiological diagnosis also be stated. Patients with symptoms or signs referable to the heart, but in whom a diagnosis of cardiac disease is uncertain, should be classified tentatively as "Undiagnosed Manifestation."

Reexamination after a suitable interval will usually help to establish a definite diagnosis. When there is a reasonable probability that the signs or symptoms are not of cardiac origin, the title "Undiagnosed Manifestation" should not be used. The diagnosis then should be "No Heart Disease." There are patients in whom the symptoms or signs, though suggestive of cardiac disease, do not justify a definite diagnosis, and from whom is obtained a history of an etiological factor which might cause heart disease. The diagnosis in such cases should include "No Heart Disease: Predisposing Etiological Factor" and "Undiagnosed Manifestation."

The above classification was quoted entirely as prepared by the Criteria Committee of the New York Heart Association.

Nursing Care

The physician's orders at all times are the guideposts with which the nurse performs her duties, but the personality of the nurse and especially her attitude toward the patient will very often influence the prognosis.

The patient is generally depressed because he fears death and he knows or suspects that his life and earning capacity are warped. He may suffer pain which makes him even more afraid of his condition. Fear due to pain merely creates a vicious cycle, since more pain is usually engendered by the effects of the fear manifestations.

Since the physician usually sees his patients only for a few minutes a day, the nurse plays a vital role in re-educating both the patient and his family about heart disease. The nurse is the logical teacher to assume this responsibility and her role is not just to say "Stop worrying," for this is useless. In the face of pain, loss of income, and enforced bed rest, this will only heighten the patient's feelings of insecurity.

The nurse must first establish rapport and win the patient's confidence and then make him feel that he is neither helpless nor permanently incapacitated. The newer trend toward early ambulation gives the nurse more responsibility for helping the patient to realize that just getting out of bed does not mean an immediate return to all activity. This frustrating situation challenges the nurse's ability as an educator, since she must also acquaint the family with the patient's physical and emotional adjustment. The nurse who makes the patient feel too helpless, who becomes emotionally involved, or who is too authoritative, may create more harm than good despite her good intentions. In any case, it is up to the nurse to attempt to make the patient as self-sufficient as the doctor permits him in the degree compatible to his physical progress.

Many of the hypertension cases are thought to be due to anxieties, tensions, frustrations, and other factors and, therefore, the nurse must not only be intelligent in executing the physician's orders but must also be capable of understanding and dealing with the emotional and social aspects in patient care.

The nurse can also play a tremendous role in *preventing* heart disease. Encourage your family, friends and patients to have annual physical examinations and particularly "heart check-ups." Learn to relax and ease tensions, watch that weight, know rehabilitation centers, and help support the American Heart Association. Do set a good example first by doing all this yourself; by having a good heart you will be able to save many hearts.

Suggested References

Contact your local chapter of the American Heart Association for the many films, pamphlets, books and guest speakers available to further your education, since this organization is the only national voluntary health agency devoted exclusively to combating diseases of the heart and circulation. Their program of research, education and community service has aided the patient, the nurse, and the physician. To the Heart Association of Greater Miami I wish to extend my appreciation for assistance in the preparation of this article.

The nurse must exercise good judgment and understanding when performing duties like fitting worker with glasses.

By observing the employee at work, the industrial nurse can see if his glasses fit properly. Photos: Estelle Wolf.

How the Industrial Nurse Contributes to Accident Prevention

Industry first used nurses to speed up the recovery of injured employees, but today's concept is based on a different approach to the problems of injury and lost time.

by Louise Candland, R.N.
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ABOUT fifty years ago, a Vermont business man employed a public health nurse to visit injured employees at their homes. His purpose was to provide nursing care in the hope that better care would enable employees to return to work earlier. The nurse, however, believed that she could accomplish more if she spent her time at the plant where she might be able to prevent long periods of lost time from injury.

The management found that she was right and passed this idea along to other manufacturers who employed industrial nurses not from philanthropy but from self-interest. They found that there was an improvement in accident experience because the nurse could manage serious injuries more competently than a first aid man and she could patch up minor mishaps quickly so that the men could continue to work. She also had the incidental value that she could give first aid to minor non-occupational conditions and thus prevent absences and thereby loss of production. These early industrial nurses were expected to do nothing more than to be in the first aid room to wait for something to happen. There are, indeed, nurses who were and are still satisfied with this concept.

The majority, however, wanted to enlarge their contributions. It is a credit to their interest, initiative and imagination that industrial nursing has progressed to its present state. Emergency care is no longer enough. Today's nurses believe that prevention of illness and injury is the most valuable contribution they can give to industry. They have recognized that in addition to nursing skills, they must know the mechanical and environmental hazards in the plant, they must make intelligent recommendations for correction and elimination of such hazards, they must be able to teach safe practices to workers, and they must know enough about the worker and his home problems to be able to teach him healthful living habits.

The contributions of industrial nurses to industry have not been recognized through any kind of magic. Insurance companies have long believed in the value of good industrial nursing service. A few have established consultant services to assist industries in establishing employee health services. Miss Joanna Johnson, the former director of the Industrial Nursing Division of Employers Mutuals of Wausau, was a pioneer in this field. State and Federal labor departments have also contributed greatly to promotion of such services.

The result is that industrial management has begun to believe in the need for manpower maintenance as well as machine maintenance. I use the word "begun," because this recognition is by no means universal. The industrialist who invests in a medical service rightfully expects a substantial return. Such returns would include savings arising from:

(1) Reduced insurance costs, (2) Lower accident rates, (3) Fewer absentees, (4) Increased production (both quality and quantity), (5) Decreased labor turnover, (6) Improved worker morale, and (7) Better community relationships.

This seems to ask a great deal of an industrial nurse, especially when we consider the fact that of the more than

16,000 industrial nurses working in the United States, the majority work alone with medical direction largely provided by part-time or on-call physicians. The general administration and development of health and safety programs, therefore, are usually the responsibility of a nurse who works alone.

You may ask, can the employment of a nurse bring about the desirable results mentioned? Obviously she can not do it all by herself, but with management support and cooperation, such results are not only possible but probable.

What kind of person is this industrial nurse? What must she know to be successful in industry? Or better, what knowledge must she acquire? We can assume that she understands preventive nursing. She must also learn to understand the problems and points of view of management, that is, profit and loss, competition, production, and manpower. She must appreciate the problems of the workers, their rights and responsibilities. She must learn about the mechanical and environmental hazards of her particular industry. She must understand insurance principles. She must know the medical and social agencies in her community and, above all, still work within the legal and ethical limitations of her profession.

Lest you think that employing a registered nurse is the answer to all your safety problems, let me correct that notion quickly. She can contribute to the safety program only insofar as her abilities are developed and used intelligently. There are still too many companies where it is believed that nursing care of injuries and illnesses is as far as a nurse should go. Many even provide other chores to fill up her time. I know one nurse who is required to ask the personnel director if she may refer a worker to a physician or clinic, another who spends two hours each day taking cash in the plant cafeteria. I would wager that no tool-and-die-maker, machinist or carpenter would be employed in this fashion.

What can you do to make your nurse a valuable asset to your safety campaign? It is true that in some cases she may be the only visible evidence of accident prevention, but a coordinated safety program includes production, industrial hygiene, and machine maintenance, and, as we mentioned before, the nurse should represent manpower maintenance.

In order that she may do her job, management must help in the following ways:

1. She must get into the plant areas and be shown how machines work, what chemicals are used, how production is maintained, and so forth.
2. Her relationship with other departments should be defined. She should know what authority she has. Her efforts to bring about corrective measures should not be hampered by too many management hurdles.
3. She should have medical direction from a physician who has an interest in the industry and its health and safety problems.
4. She should be given time and opportunity to belong to nursing associations and take advantage of educational opportunities such as workshops, conventions, etc.

If management does its share in helping the nurse do her job, what special things can she do for the industry, and specifically do for the safety department?

1. If she knows the plant she can spot trouble before it gets serious. For example, recently an alert nurse called our office to say that four workers assigned to cleaning electronic parts were complaining of watering of the eyes and nose and skin rashes, and two of these were complaining of nosebleed. She was able to furnish us with chemical formula, temperature, type of exhaust and other information which would help in finding the cause of the condition. From her information we were able to correct the condition.
2. Safety is largely an educational problem. Therefore, she can help greatly in any educational project by means of group teaching, plant publications, posters and booklets, and above all, individually when the worker is being treated for an injury.
3. Special projects, such as a campaign on housekeeping or protective clothing, need the nurse's help. Recently, a nurse in a chemical industry told me about her experience with safety glasses. (Unfortunately the campaign didn't start seriously until a man was blinded by caustic.) The men with plain glasses complained of headaches, visual distortions and other discomforts. These were reported to the physician and after discussion management was persuaded to buy a sight-screening device. The nurse told me that 1,500 tests had been made and that 1 out of 5 men tested had visual defects serious enough to require prescription lenses. When the men had properly fitted glasses, the complaints stopped.
4. The nurse's work would have little value without records. Her regular report to management can show trends and danger spots. The safety department needs to know something about safe job placement. Records are so vital to any aspect of industrial life that we need not discuss them further.
5. Most industries now require that new employees have a physical examination. This examination should be used to place a man on a job he can perform safely and efficiently. The nurse should know the physical requirements of most jobs in the plant and should be able to advise the personnel department about proper placement; or, if an injured employee is returning to work, whether it will be safe for him to return to his former job. In larger plants this is the physician's responsibility, but the nurse working alone may have to relay to management the part-time or on-call physician's recommendations.

Some of the contributions a good industrial nurse can make to accident prevention on and off the job are:

1. Ability to relate effect to causes
2. Ability to teach safety
3. Participation in safety projects
4. Records
5. Assistance in safe job placement

In order to carry out these responsibilities, she must maintain a neutral attitude and always keep in mind that she exists to perform a service to both workers and management.

Finding the right nurses to fill industrial nursing positions is by no means easy. It is too costly to depend on the trial and error method to get maximum results from an industrial health program. This applies to the nurse as well as the industry. Fortunately for both, there are now sources where management and nurses can find what functions qualified nurses can and should perform. The American Nurses' Association has recently published a booklet, "Functions, Standards and Qualifications of an Industrial Nurse," which is available by writing to the American Nurses' Association, 2 Park Avenue, New York City. The American Association of Industrial Nurses has an excellent guide for management, available by writing to headquarters at 654 Madison Ave., New York City; and the American Medical Association, in cooperation with A.N.A., A.A.I.N., and the Industrial Medical Association, has published, "Guiding Principles and Procedures for Industrial Nurses" available at A.M.A. headquarters.

Help in establishing a well-functioning medical unit may be obtained from your insurance carrier or the State Labor or Health Department's industrial nurse consultant.

The nursing profession is trying to establish educational opportunities and standards for nurses in industry. Much progress has been made, but we need the help of industry:

1. First, to help us maintain the standard by making jobs financially attractive to qualified industrial nurses.
2. Second, by allowing nurses time and opportunity to keep up with current education in this field, which, after all, enhances her value to industry.

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CLASSIFIED ADVERTISING

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Write for further information to the: Director of Nursing Service, University of Texas Med. Branch Hospitals, Galveston, Texas.

GRADUATE NURSES: For general duty, 40-bed general hospital, new, air-conditioned, well equipped, $275-$325 per month starting salary plus meals and laundry of uniforms. Transportation paid to Dumas. Write, call, wire, collect. Administrator, Memorial Hospital, Dumas, Texas.

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WANTED—Qualified registered nurse for surgical floor supervision, and one for general staff position. Excellent salary. Box N 10, Nursing World, 41 E. 42nd St., New York 17, N. Y.

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For details write

Miss Carmack, Supervisor
Medical Recruiting Section
Box Z, State Personnel Board
801 Capitol Avenue
Sacramento 14, California

WANTED: General Duty Nurses for 7-3 and 3-11 shifts, salary of $220.00 per month with complete maintenance. Also opening for 3-11 Supervisor at salary of $320.00 per month with partial maintenance. All positions carry a 5½-day work week with paid holidays and vacations. Contact Administrator, Howard County Hospital Foundation, Big Spring, Texas.

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